

MR15/2.5

Market review into the ownership and competitiveness of infrastructure provision

Remedies decision

June 2017

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1 Executive summary

1.1 In 2015 and 2016 we conducted a market review of ownership and competition in the provision of infrastructure services for the three interbank payment systems – Bacs, Faster Payments Scheme (FPS) and LINK. In our final report we found that there is no effective competition. For the people and businesses that use payment systems this can lead to:

- higher prices
- less innovative services
- less pressure for infrastructure to be provided efficiently
- a lower quality of service

1.2 Our objectives require us to promote effective competition and innovation in payment systems, in the interests of service-users. In this document, we set out our final decision on our remedies to address these problems and improve outcomes for users. We have taken into account all evidence and information provided by stakeholders, including responses to our December 2016 remedies consultation. We have decided to implement two remedies:

- mandating competitive procurement exercises for Bacs, FPS and LINK when they purchase central infrastructure services
- introducing ISO 20022 messaging standards in future procurement exercises for Bacs and FPS

1.3 We are not imposing a divestment remedy, given the Mastercard acquisition of VocaLink, which currently supplies the central infrastructure for all three systems. We consider that the acquisition is effective in addressing the ownership-related competition problems we identified.

1.4 We consider that our remedies, taken together with the sale of VocaLink, will remove barriers to entry and create a competitive procurement process, opening up the provision of central infrastructure to competition. Specifically, these measures remedy the following competition issues that we identified in our final report:

- Operators and direct payment service providers (PSPs) do not have a strong incentive to run competitive procurements, which has resulted in limited competitive pressure on VocaLink.
- The use of bespoke messaging standards by Bacs and FPS represents a barrier to entry for alternative providers of central infrastructure services.
- The current ownership and governance arrangements at VocaLink are likely to reduce the level of competition in the provision of central infrastructure services.

1.5 In designing our competitive procurement and messaging standards remedies we have paid particular attention to ensuring that these will work effectively with the proposals made by the Payments Strategy Forum (the Forum). We have given special consideration to the timing of any procurement exercises to ensure that they align with the development of the Forum's new payments architecture (NPA) and with the proposed consolidation of the operators of the Bacs, FPS and Cheque and Credit Clearing systems. We have responded to operators' concerns in this area by providing some flexibility on the timing of these exercises. We expect that the industry will soon begin preparations for several procurement exercises, including for any central infrastructure requirements for the NPA. We therefore expect that our package of actions will help improve outcomes for users. This market review is part of our wider programme of work to promote more competition and innovation for the benefit of users of payment services.

1.6 We believe that this package of actions, taken together, will address the competition issues that we have found. In particular, they will enable new infrastructure providers with different technology to enter the market and drive new and innovative products and services. This can benefit all users of payment systems, from large PSPs to consumers.

2 Introduction

- 2.1** In July 2016 we published the final report of our market review into the ownership and competitiveness of central payments infrastructure provision.¹ We found that there is currently no effective competition in this market and set out some initial thoughts on a package of three potential remedies to address this. We said we would develop these further and consult on them, which we did in our remedies consultation published in December 2016.
- 2.2** In this document we set out our final decision on the remedies we have decided to implement. We have taken into account all evidence and information provided by stakeholders, including the responses we received following our December 2016 remedies consultation. We set out our assessment of each remedy and the overall package of remedies, and our decision on the remedies we are implementing.
- 2.3** We are implementing two remedies:
- competitive procurement of future central infrastructure contracts
 - messaging standards
- 2.4** Given the Mastercard acquisition of VocaLink we are not imposing a divestment remedy at this stage. We have, however, provided some additional assessment regarding the ownership of VocaLink.
- 2.5** In this decision we assess the effectiveness and proportionality of each of our two remedies and the package as a whole. We first consider, for each remedy, which of the options we have identified would be effective in resolving the problem we have identified. We then consider the costs of each effective remedy option, and so identify the least-costly effective remedy. Finally, we consider the effectiveness and proportionality of the package of remedies as a whole, including an assessment of the expected costs and benefits.

Regulatory framework

- 2.6** We have carried out this market review using our powers under the Financial Services (Banking Reform) Act 2013 (FSBRA). As we explained in our terms of reference², we have three statutory objectives, set out in sections 50 to 52 of FSBRA: our competition, innovation, and service-user objectives.
- 2.7** Under FSBRA we have a range of options that we can explore in developing the remedies. These are set out in our Markets Guidance.³ Some of these are actions we can take, and some are actions we can ask others to take.

¹ PSR MR15/2.3, *Market review into the ownership and competitiveness of infrastructure provision – final report* (July 2016): www.psr.org.uk/sites/default/files/media/PDF/MR1523-infrastructure-market-review-final-report.pdf

² PSR MR15/2.1, *Market review into the ownership and competitiveness of infrastructure provision – Terms of reference* (2015): www.psr.org.uk/sites/default/files/media/PDF/Infrastructure%20final%20terms%20of%20reference.pdf

³ www.psr.org.uk/markets-guidance

2.8 They include:

- making new general directions (or amending existing ones) in relation to the relevant payment system under section 54 FSBRA
- making specific directions in relation to the relevant payment system under section 54 FSBRA (which could apply to specified persons, or persons of a specified description), including in relation to governance arrangements for infrastructure providers
- imposing generally-imposed requirements, or specifically-imposed requirements (that apply only to a specific participant), under section 55 FSBRA
- requiring the disposal of all or part of an interest in an infrastructure provider in relation to a regulated payment system under section 58 FSBRA
- making recommendations for further industry initiatives or enhanced industry self-regulation that promote the interests of service-users
- making proposals to the Bank of England, Financial Conduct Authority (FCA) or Prudential Regulation Authority (PRA) as appropriate
- publishing guidance
- asking the Competition and Markets Authority to consider investigating the market(s)⁴
- taking no further action for the time being – for example, because our concerns are likely to be satisfied by upcoming legislative measures, action by the relevant participants or other circumstances; in such cases, we may continue to monitor the market in case our concerns are not addressed

2.9 When deciding on our remedies – both individually and as a package – we consider:

- **Effectiveness:** The remedy must address the problem(s) we have identified and be practicable to implement, monitor and enforce. We take account of current laws and regulations, as well as those expected in the near future. We also consider the way in which the remedies interact with each other.
- **Proportionality:** The remedy needs to solve the problem(s) we have identified in a way that is no more onerous than necessary. For example, if there is a choice between two equally effective remedies, we would choose the option that is least intrusive. The remedy should also not produce disadvantages which are disproportionate to its aim.⁵
- How the remedy (or package of remedies) fits in with our other policies relevant to the provision of infrastructure services, as well as other relevant industry developments. For example, this includes the work of the Payments Strategy Forum, where it is considering relevant issues.

⁴ Section 131(1)EA02.

⁵ This is a summary of the proportionality principles set out in *Fisheries and Food and Secretary of State for Health, ex parte Fedesa* [1990] ECR I-4023, paragraph [13] and referred to by the Competition Appeal Tribunal including in *Tesco v CC* (4 March 2009), *Barclays and others v CC* (16 October 2009) and *BAA v CC* (21 December 2009 and 1 February 2012).

2.10 As discussed in our Markets Guidance, we also consider:

- **FSBRA Regulatory Principles:** When aiming to ensure that any action we take is effective and proportionate to the concerns identified we take into account the regulatory principles in section 53 FSBRA. There are eight principles. Our Markets Guidance identifies three of these as particularly relevant when considering intervention:
 1. **The efficiency principle:** The need to use the resources of each regulator in the most efficient and economical way.
 2. **The proportionality principle:** A burden or restriction which is imposed on a person, or on the carrying on of an activity, should be proportionate to the expected overall benefits, considered in general terms, of that burden or restriction.
 3. **The transparency principle:** Regulators should exercise their functions as transparently as possible.
- **Principles of Better Regulation** in the Legislative and Regulatory Reform Act 2006, including proportionality and transparency, and the additional requirements of the Regulators' Code.⁶ Accordingly, we carried out an assessment of the proportionality of our remedies and consulted on these.
- **Equality and diversity implications:** In line with our public sector equality duty under the Equality Act 2010, we assess the likely equality and diversity impacts and rationale of our proposals to assess whether they give rise to any concerns as a result of any protected characteristic, as part of our decision-making processes.⁷

2.11 We have considered whether it would be more appropriate for us to proceed under the Competition Act 1998 (CA98) rather than using our powers under FSBRA. We consider that the issues we have identified which affect competition can be most comprehensively, efficiently and expediently addressed with the remedies we have proposed, exercising our statutory powers under FSBRA, especially in light of the evidence we have identified.

Remedies

2.12 The remedies we are now imposing are:

- Two specific directions under section 54 of FSBRA requiring that if the operators of the Bacs and FPS payment systems contract for the provision of central infrastructure this is competitively procured at least every ten years. The first procurement must enable the use of ISO 20022 messaging standards.
- A specific direction under section 54 of FSBRA requiring that if the operator of the LINK payment system contracts for the provision of central infrastructure this is competitively procured at least every ten years.
- Two specific directions under section 54 of FSBRA requiring the operators of the Bacs and FPS payment systems to make documentation available to allow conversion between existing messaging standards and ISO 20022.

⁶ PSR MR15/2.3, *Market review into the ownership and competitiveness of infrastructure provision – final report* (July 2016): www.psr.org.uk/sites/default/files/media/PDF/MR1523-infrastructure-market-review-final-report.pdf

⁷ PSR MR15/2.1, *Market review into the ownership and competitiveness of infrastructure provision – Terms of reference* (2015): www.psr.org.uk/sites/default/files/media/PDF/Infrastructure%20final%20terms%20of%20reference.pdf

- 2.13** These remedies will remain in place unless amended or revoked by us. In line with our Markets Guidance (see paragraph 3.32 of that guidance) we will continue to monitor the effectiveness and proportionality of these remedies.

This decision

- 2.14** The remainder of this document is set out as follows:

- Chapter 3 considers the competitive procurement remedy.
- Chapter 4 considers the messaging standards remedy.
- Chapter 5 considers the ownership of Vocalink.
- Chapter 6 considers the remedies package as a whole.

3 Competitive procurement remedy

We found in our final report that the lack of competitive procurement represents a barrier to entry for alternative providers of central infrastructure services. Also, the operators and direct PSPs do not have a strong incentive to run competitive procurements, which has resulted in limited competitive pressure on VocaLink. To address these issues, we considered options for a potential remedy that competitive procurement exercises are undertaken for the central infrastructure services for Bacs, FPS and LINK.

We conclude that the option of mandating competitive procurement for the central infrastructure services for Bacs, FPS and LINK would be effective.

We outline the elements that we consider are necessary to make this remedy effective. These include the remedy's interaction with the Payments Strategy Forum's work – in particular operator consolidation and the proposed new payments architecture. The remedy will be effective with the change in the ownership of VocaLink and if the messaging standards remedy is also implemented.

We do not consider the options of issuing best-practice guidelines or requiring operators to set a procurement strategy would be effective because neither ensures that a competitive procurement would take place.

We estimate the incremental cost of our remedy is between £6 million and £10 million each for Bacs and FPS, and between £1.5 million and £2.5 million for LINK. In the event that a new provider is selected, there would also be an additional cost of migrating users to the new provider. However, we expect this would only occur if changing provider represented value for money.

Introduction

- 3.1** In our final report, we found that the lack of competitive procurement exercises is a barrier to entry. It prevents other potential providers from competing for the provision of central infrastructure services, despite several being interested in offering such services. Payment system operators (operators) are currently responsible for both governing the systems and procuring the central infrastructure services on behalf of the PSPs that use it. We found that the operators do not have a strong incentive to seek alternative – and potentially more efficient and innovative – infrastructure services. They have not held periodic competitive procurement exercises that would allow them to directly compare the offerings of alternative providers. The direct PSPs – as the main users of the payment systems – do not have a strong incentive to encourage the operators to seek alternatives. As a result, the incumbent provider, VocaLink, has faced limited competitive pressure and reduced incentives to provide more efficient and innovative services.⁸
- 3.2** To address these issues, we included a potential remedy in our final report that competitive procurement exercises are undertaken for the provision of central infrastructure services for Bacs, FPS and LINK. In this chapter we:
- explain which alternative remedies we considered but do not intend to pursue
 - consider the effectiveness of three different options for a procurement remedy we proposed in our final report
 - assess remedy costs

⁸ PSR MR15/2.3, *Market review into the ownership and competitiveness of infrastructure provision – final report* (July 2016), paragraphs 7.2 to 7.4 and 8.17 to 8.18: www.psr.org.uk/sites/default/files/media/PDF/MR1523-infrastructure-market-review-final-report.pdf.

Alternative remedies considered but not pursued

- 3.3** Stakeholders suggested two potential alternatives to our proposed procurement remedy. We have considered these but decided not to pursue them.
- 3.4** First, five stakeholders proposed implementing direct contracting between PSPs and central infrastructure providers (instead of common infrastructure procured by each payment system). They said this would increase competition **in** the market and encourage potential infrastructure providers to compete. One of these said implementing direct contracting would remove the need for our remedy. It noted that a move to more direct contracting is possible under the new payments architecture (NPA) proposed by the Payments Strategy Forum (the Forum) – the Simplified Payments Platform.⁹ This architecture may not have any central (or collaboratively-procured) infrastructure, or if it does, it may be thinner than the current central infrastructure, allowing multiple providers of overlay infrastructure or services to compete in the market simultaneously. This stakeholder, however, said we should mandate direct contracting now rather than wait for the NPA to be implemented.
- 3.5** We want our remedies to allow the most efficient and effective forms of infrastructure provision to develop in the future. We have therefore designed our procurement remedy so it does not preclude direct contracting while also ensuring that if any infrastructure is collaboratively procured, this is done competitively. We note that the Forum’s final strategy proposes that the NPA should go live at the end of 2020, which is around the time the existing contracts could first be terminated and our remedy would take effect (see paragraphs 3.90 and 3.100).
- 3.6** Second, one stakeholder proposed encouraging more PSPs to become direct members of payment systems. We do not believe this would effectively address the issues we identified. Increasing the number of member PSPs would not influence direct PSPs’ incentives to encourage operators to run a competitive procurement, because the model would still be a collective procurement structure. Being direct members of payment systems may also not be an efficient approach for many PSPs. We are, in any case, working to facilitate more open and flexible direct access for those PSPs that are interested through other avenues of our work, such as our access work.¹⁰

Assessment of effectiveness

- 3.7** Our remedy is aimed at establishing effective competition **for** the market – the current industry structure for Bacs, FPS and LINK – which would ensure that outcomes meet service-users’ needs.¹¹
- 3.8** We have identified three options for this remedy:
1. Issuing best-practice guidelines for procurement.
 2. Requiring operators to set a procurement strategy.
 3. Mandating the operators to undertake competitive procurement when contracting for future central infrastructure services.

⁹ Payments Strategy Forum, *A payments strategy for the 21st century – final strategy* (November 2016): <http://consultation.paymentsforum.uk/final-strategy>

¹⁰ We published our latest report on the operators’ progress on creating more open and flexible access to payment systems in March 2017: www.psr.org.uk/psr-publications/news-announcements/access-and-governance-report-March-2017

¹¹ PSR MR15/2.3, paragraphs 4.4 to 4.6 and 4.13.

3.9 Option 3 differs from the competitive procurement remedy options we proposed in our final report. The final report had two separate options for mandating competitive procurement: one option mandated competitive procurement and the other added specific requirements (such as an independent external audit) to make the procurement effective.¹² Option 3 above now combines these options and considers what, if any, additional requirements might be required to make a competitive procurement effective. This includes a variation on option 3 to require VocaLink to provide shortlisted potential providers onsite access to its staff and certain information during a discovery phase in the procurement for Bacs. We identified this after consultation with stakeholders about the impact of incumbency advantages on the effectiveness of competitive procurement (see paragraphs 3.83 to 3.88).

General observations

3.10 All three remedy options aim to introduce competitive procurement to ensure effective competition for the benefit of service-users. We first assess whether introducing competitive procurement will be effective in addressing the problem we identified in our final report. We then assess whether and, if so, which of the options would be effective in ensuring that competitive procurement takes place.

3.11 Competitive procurement exercises would introduce competition for central infrastructure services provided there are no particular market features that prevent such an exercise from being effective. We therefore assess whether any current market features would have an adverse impact on the effectiveness of a procurement remedy. Such features could affect alternative providers' ability and willingness to compete, or they might affect VocaLink's perception of a credible threat of competition from other potential providers.

3.12 There are several factors, some interrelated, that could have an adverse impact on the effectiveness of competitive procurement. These include:

- a lack of credible alternative providers
- barriers to entry
- ownership arrangements
- incumbency advantages
- potential regulatory changes

3.13 As these factors could have an impact on the effectiveness of any of our remedy options, we assess each before turning to the effectiveness of each remedy option.

A lack of credible alternative providers

3.14 We said in our final report that there are a number of providers willing to compete against VocaLink: seven for Bacs, seven for FPS and five for LINK. These include providers currently operating in other jurisdictions that offer similar infrastructure services.¹³ Since our final report and remedies consultation, we have engaged further with a number of alternative providers that are all active in similar markets. We consider them to be credible competitors to VocaLink for one or more of the Bacs, FPS and LINK central infrastructure services once the barriers to competition we identified in our final report have been removed. Furthermore, as noted in our final report, the possibility of joint ventures and consortia could increase the pool of credible bidders.¹⁴

3.15 A competitive procurement, even with a limited number of participants, can produce a competitive outcome, as participants that are efficient and provide interchangeable services will constrain each others' offers in the procurement process. One alternative provider noted that having three or four providers involved, in addition to the incumbent, would allow for an effective competitive procurement.

¹² PSR MR15/2.3, paragraph 8.57 c and d.

¹³ PSR MR15/2.3, paragraphs 4.189 to 4.207.

¹⁴ PSR MR15/2.3, paragraph 4.55.

- 3.16** One stakeholder was concerned that the sale of VocaLink to Mastercard would reduce the number of credible alternative providers, particularly for the provision of LINK central infrastructures [9<]. In its merger assessment, the Competition and Markets Authority (CMA) found that VocaLink, Mastercard and Visa’s existing connections to many of the LINK members would give them an advantage over alternative providers that wanted to compete for LINK services.¹⁵ Replicating these connections would represent an additional cost to a new entrant. To address this advantage, in the event the operator of LINK decided to change provider, VocaLink and Mastercard have committed to giving a new entrant access to VocaLink’s network of connections. This will reduce the cost of establishing connectivity between PSPs and an alternative central infrastructure provider. They have also committed to providing funds to cover switching costs incurred by PSPs.¹⁶ The CMA accepted these commitments and concluded they are sufficient to address its competition concerns on 11 April 2017.¹⁷ We note that the CMA ‘concluded that the merger will not result in a realistic prospect of a substantial lessening of competition in the supply of central infrastructure services to each of FPS and Bacs or to the two payment schemes combined.’¹⁸
- 3.17** Given the commitments required by the CMA and its conclusions, we do not consider the sale of VocaLink will negatively affect the existence of credible providers for Bacs, FPS and LINK.
- 3.18** Three stakeholders noted the risk that the winning provider might walk away from delivering on the contract, which has happened in rail franchising procurement. This is a risk for the operator to assess and manage in any procurement exercise and subsequent contract with an infrastructure provider. There would, however, be significant reputational damage for any provider that walked away from a contract.
- 3.19** Overall, based on the evidence, we consider that there are at least four credible alternative providers for each of Bacs, FPS and LINK, which is sufficient for a competitive procurement to be effective. We have taken account of Mastercard’s merger with VocaLink in reaching this conclusion.

Potential barriers to entry

- 3.20** In our final report we found that bespoke UK messaging standards and VocaLink’s ownership arrangements act as barriers to entry.¹⁹ In our view, if these barriers are not addressed, then a competitive procurement will not be effective because alternative providers would be deterred from competing. In Chapter 4 we consider remedies to address the messaging standards barrier. In Chapter 5 we outline our assessment that the sale of VocaLink to Mastercard will address the barrier caused by the current ownership arrangements.
- 3.21** Alternative providers have previously said that a requirement to have data centres located in the UK would deter them from competing. However, we found that current regulations do not require this.²⁰ Therefore, in the absence of any changes to the regulations, this does not inhibit the effectiveness of a competitive procurement. We discuss potential regulatory changes that could affect competitive procurement in paragraphs 3.51 to 3.54.
- 3.22** The final report did not identify other barriers to competition.

¹⁵ Competition and Markets Authority (CMA) ME/6638/16 *Decision on relevant merger situation and substantial lessening of competition* (30 January 2017), paragraph 10: <https://assets.publishing.service.gov.uk/media/588f2c1fed915d4535000041/mastercard-vocalink-ftd.pdf>

¹⁶ CMA *Final Undertakings: Undertakings given by Mastercard to the Competition and Markets Authority pursuant to section 73 of the Enterprise Act 2002* (11 April 2017): <https://assets.publishing.service.gov.uk/media/58eb4b70e5274a06b300012e/mastercardvocalink-uils-final-undertakings.pdf>

¹⁷ CMA *CMA accepts Mastercard/VocaLink undertakings* (11 April 2017): www.gov.uk/government/news/cma-accepts-mastercardvocalink-undertakings

¹⁸ CMA ME/6638/16, paragraph 11.

¹⁹ PSR MR15/2.3, paragraphs 4.254 to 4.290 and 6.167 to 6.187.

²⁰ PSR MR15/2.3, paragraphs 4.291 to 4.299.

Ownership arrangements

3.23 In our final report, we also found that the current ownership arrangements for VocaLink reduce the level of competition in infrastructure services. This is because the four largest VocaLink shareholder PSPs have an incentive to protect VocaLink from competition, and are unwilling to turn to other infrastructure providers.²¹ In Chapter 5, we set out how the sale of VocaLink addresses the ownership issue, and therefore will not have an impact on the effectiveness of any competitive procurement.

Incumbency advantages

3.24 We noted in our final report that some stakeholders had said that potential incumbency advantages could explain why competitive re-procurement is not common in central infrastructure services in payment systems globally.²² Incumbency advantages may hinder the effectiveness of a competitive procurement because they give the incumbent a material advantage over rival bidders. Even the perception of an advantage can deter rivals from participating. It is important to note that in this section we assess whether we consider an incumbency advantage is material enough to render a competitive procurement process ineffective. We do not consider the existence of an incumbency advantage in itself would make the remedy ineffective.

3.25 We have considered some potential incumbency advantages that VocaLink might have in a competitive procurement, including:

- Advantages due to the extent of bespoke requirements that are to be retained from the existing system (a like-for-like procurement of bespoke requirements). Bespoke system requirements are the business requirements, standards and rules that the infrastructure solution must meet that are bespoke to that system. An example is the bespoke messaging standards in UK payment systems.
- The cost of switching to an alternative provider – namely the potential costs and risks associated with changing PSPs' internal systems to migrate to a new central infrastructure provider.
- The existing relationship and proven track record of service provision with key system users.

3.26 We consider the potential incumbency advantages outlined in paragraph 3.25 in turn.

Extent of bespoke requirements retained

3.27 In our view, in a procurement where bespoke requirements are retained from the existing system (a like-for-like procurement), VocaLink could have incumbency advantages in terms of knowledge of the requirements, having invested in providing specific infrastructure. However, the degree of VocaLink's advantage, and whether this would render a competitive procurement ineffective, depends on the extent and complexity of the bespoke requirements.

3.28 Many alternative providers told us that VocaLink would have a material incumbency advantage in a like-for-like procurement for Bacs, given the complexity and level of customisation of the system requirements. Two alternative providers added that there are individual PSP-specific requirements in Bacs that VocaLink would have detailed knowledge of. One noted that these requirements are not well documented. One alternative provider also noted that VocaLink's knowledge of overlay or cross-scheme services that it currently provides – such as the Bank Reference Database Services, Current Account Switch Service and government services – gives it a further advantage. In contrast, one alternative provider responded that Bacs' existing technical and business requirements are well documented and could be used by alternative providers. In our view, VocaLink would have a knowledge advantage in a like-for-like Bacs procurement.

²¹ PSR MR15/2.3, paragraphs 6.188 to 6.192.

²² PSR MR15/2.3, paragraphs 4.47 and 4.72.

- 3.29** For FPS and LINK we consider the requirements are less complex and bespoke than for Bacs. FPSL, LSL and one alternative provider said that these requirements were relatively straightforward and similar to services already provided, or being developed, in other jurisdictions. None of the stakeholders that responded to our remedies consultation disagreed with this. Therefore, we consider VocaLink would not have a material knowledge advantage in a like-for-like procurement for these systems, particularly if the requirements are clear and detailed in the procurement documents.
- 3.30** One of the significant bespoke requirements that alternative providers are not willing to develop is the bespoke messaging standards used in the UK payment systems, particularly the Bacs standard. We identified this as a barrier to entry in our final report (see paragraph 3.20).
- 3.31** In our view, future procurements – particularly the next procurement for Bacs and FPS – would not be like-for-like. We consider the requirements would be materially different to those of the existing systems, so any incumbency advantage VocaLink would have due to bespoke requirements would not be material. This is because:
- a) Our messaging standards remedy will reduce the incumbency advantage related to bespoke messaging standards for the next procurement (see paragraph 4.102). One alternative provider said that VocaLink would still have a material knowledge advantage for Bacs, even if changes around the messaging standards were introduced, because of the complexity of the basic functionality and individual-PSP workarounds (see paragraph 3.28). We recognise this, but we consider that other changes to the requirements, as outlined in paragraphs 3.31 b and c below, would reduce this advantage further.
 - b) The Forum, in its final strategy, found that the current Bacs and FPS systems are not fit for purpose in delivering what service-users want.²³ Therefore, a like-for-like procurement of these systems will not meet service-users' needs. FPSL also told us it expects that the requirements for the central infrastructure services that it procures next would be different to those of the current system, reflecting changes in service-users' needs, the work of the Forum and specific user requirements that did not exist in 2005. Furthermore, service-users' wants and needs are likely to continuously change over time, driven in part by continual advancements in technology. System requirements will therefore change to reflect these.
 - c) The Forum's long-term vision for a NPA for the Bacs, Cheque and Credit (C&C) and FPS systems – known as the Simplified Payments Platform – would also mean significant changes to the requirements of the central infrastructure services for Bacs and FPS, which may impact on the next, or a future, procurement. We consider the impact of this in our remedy design and implementation below (see paragraphs 3.106 to 3.141).
- 3.32** Furthermore, many established central clearing infrastructure providers that are active in other jurisdictions said they would be willing to compete in procurement that is not like-for-like. This is because both VocaLink and these providers would have a similar level of understanding of the new requirements and would need to develop some specific infrastructure to meet these. We therefore do not consider knowledge of existing systems would provide VocaLink with an incumbency advantage that would be material in a procurement that is not like-for-like compared to alternative providers that are active in other jurisdictions.

²³ Payments Strategy Forum, A payments strategy for the 21st century – final strategy (November 2016): <http://consultation.paymentsforum.uk/final-strategy>

- 3.33** In addition, other organisations, such as system integrators, or other technology providers that are not established central infrastructure providers, may wish to compete to provide central infrastructure services for Bacs, FPS and LINK. We recognise that such organisations may be at more of a disadvantage relative to established central infrastructure providers, including the incumbent VocaLink, as noted by one stakeholder, as they may need to incur some sunk costs for investment in infrastructure-related assets. However, we would expect most organisations would face a similar issue when deciding to enter an established market and compete against existing providers. Also, as noted in paragraph 3.14, it is possible that these organisations could compete as a joint venture with other organisations that have the necessary assets to provide central infrastructure services. Furthermore, the more costly infrastructure-related assets, such as data centres, can be reused to provide other technological services and therefore would not be a sunk cost. We therefore do not consider any incumbency advantage VocaLink would have over these organisations to be material.
- 3.34** We also considered whether VocaLink's knowledge of the existing bespoke requirements would give it an advantage over alternative providers in estimating the cost of service provision. There are contrasting views from stakeholders about whether non-incumbents face uncertainty about estimating the likely costs and whether this would affect their ability to compete. In our view, alternative providers that currently offer similar services elsewhere should have a reasonable knowledge of, and experience in, estimating the underlying costs of delivering the services. Two alternative providers told us they have experience in developing infrastructure to meet unknown bespoke requirements and determining the overall cost of delivering those services when submitting their proposal for that work. Therefore, we do not think this uncertainty should inhibit the effectiveness of a competitive procurement providing the requirements are clear and detailed in the procurement documents.
- 3.35** In summary, in our view any incumbency advantage VocaLink would have in the next procurement due to bespoke requirements would not be material. The reasons for this vary for each system:
- For Bacs, we consider that the complex nature of this system could mean that if a significant number of bespoke requirements are retained in the next procurement (a like-for-like procurement) VocaLink could have a material incumbency advantage. We consider this would be reduced providing the operator provides clear and detailed system requirements – including those for individual workarounds and interactions with overlay and cross-scheme services – in the tender documents and the process followed is objective and transparent as required by our directions (see paragraphs 3.86 and 3.88). In addition, as explained in paragraph 3.31, in our view the next procurement will not be on a like-for-like basis, for reasons that include our messaging standards remedy. This will also significantly reduce any incumbency advantage that could otherwise exist.
 - For FPS we consider that, due to the lower complexity of the system, bespoke requirements do not create an incumbency advantage that would be material in a procurement – so long as clear and detailed system requirements form part of the procurement (as will be the case as part of an effective procurement). Furthermore, in our view the next procurement is unlikely to be on a like-for-like basis, for reasons that include our messaging standards remedy. Therefore, many requirements are likely to be changed which will significantly reduce any incumbency advantage that could otherwise exist.
 - For LINK, we consider that due to the low complexity of the system, bespoke requirements do not create an incumbency advantage that would be material in a future procurement.

The cost of switching to an alternative provider

- 3.36** Large switching costs incurred by PSPs for changing central infrastructure provider would indicate VocaLink has a material incumbency advantage. We recognise there are potential costs and risks associated with changing PSPs' internal systems to enable migration to a new central infrastructure provider, as outlined in our final report.²⁴ These would not be incurred if VocaLink was selected as the provider. If these costs and risks are large, it could give VocaLink a material incumbency advantage in a competitive procurement. However, as we noted in our final report, these costs and risks are largely unknown: they are difficult for individual PSPs and others to estimate without knowing the specific scenario in which the migration would occur.²⁵ Ultimately, our remedy for competitive procurement exercises should identify whether an alternative provider offers value for money from switching, but switching is ultimately the decision of those running the procurement (see paragraph 3.180).
- 3.37** Evidence from stakeholders indicates that the cost of migration would vary depending on the extent of changes being made, largely due to the extent of testing required. We were told by some stakeholders that a like-for-like migration would likely be less cumbersome as it would only require testing of the new connectivity, which is not a significant cost. Some stakeholders told us the extent of testing required would increase with the extent of changes made to the system requirements. A few stakeholders reiterated comments made in our final report that the costs and risks of migration or implementing changes should not be underestimated.
- 3.38** If the system requirements change materially – as we envisage they would, particularly for Bacs and FPS, for the reasons explained in paragraph 3.31 – it is likely that they would be thoroughly tested even if implemented by VocaLink. In such a scenario, it is likely that the cost of this testing would be similar to the cost of testing a new provider's service. This was noted by one PSP which said implementing ISO 20022 or conversion services would require testing, whether operated by VocaLink or by an alternative provider (see paragraph 4.64). Therefore, the incremental costs of switching to a new provider would relate to costs associated with parallel running and establishing physical connectivity, if these are necessary. As noted in paragraph 3.36, the associated costs would depend on the specific scenario of the migration. For example, the new provider may use the same telecommunications provider which could reduce the costs for PSPs of establishing physical connectivity to the new central infrastructure.
- 3.39** Furthermore, the Forum, with the assistance of Ernst & Young, undertook a business case evaluation of implementing the NPA (the Simplified Payments Platform) to address the key detriments the Forum identified. This estimated that the cost, in net present value terms, of upgrading the existing Bacs, FPS and C&C systems is higher than implementing a new system.²⁶ These costs take into account those incurred by PSPs to change their internal systems, and the cost of parallel running during a migration period. [3<]
- 3.40** Overall, the evidence set out in paragraphs 3.38 and 3.39 indicates that VocaLink would not have an incumbency advantage due to switching costs that is material in a competitive procurement that is not like-for-like, which we consider to be likely for Bacs and FPS (see paragraph 3.31). For LINK the extent which the requirements will change for the next procurement is not as clear as it will depend on its consultation with service-users and improvements in technology.
- 3.41** Stakeholders' evidence also indicates that the migration costs would vary across different member PSPs. This would depend on how PSPs connect to the central infrastructures, and the complexity of their internal IT systems. The amount of complexity largely reflects a PSP's range of business areas and services, but it also reflects to some degree the use of legacy IT systems. [3<] We understand that some large banks are looking to rationalise their payment platforms to increase their change capacity, which could reduce costs and enable more innovation.

²⁴ PSR MR15/2.3, paragraph 4.211 to 4.229.

²⁵ PSR MR15/2.3, paragraph 4.223.

²⁶ Payments Strategy Forum, *PSF strategy development: Business case evaluation (supporting document)* (November 2016), page 10:
<http://consultation.paymentsforum.uk/sites/default/files/documents/Payments%20Strategy%20Forum%20-%20Business%20Case%20Evaluation.pdf>

- 3.42** FPSL said that when considering the benefits and costs for PSPs of switching provider, an operator should look at the benefits and costs for an efficient PSP. It said considering these for an inefficient PSP would misrepresent the true net cost of switching. We agree with this view. We consider that it would be inappropriate to decide against migrating to a new provider of central infrastructure on the basis of costs related to some PSPs' internal IT systems, where those systems may not be taking advantage of advances in technology and business practices. This is because such a decision could penalise those PSPs that have invested in updating and streamlining their IT systems.
- 3.43** As noted in our final report, the migration costs and risks could be reduced to some extent. We note that FPSL is looking to make changes to the FPS system architecture to separate the connectivity layer from the processing layer; it believes this approach could make it easier to migrate between providers. For LINK, as part of the sale of VocaLink, Mastercard has committed to undertakings which should help to reduce switching costs – in particular, the cost of establishing connectivity to the PSPs – if LSL decided to change provider (see paragraph 3.16). The risks involved could be mitigated with proper planning and testing.²⁷ We also note some of the migration costs will relate to making changes to PSPs' IT infrastructure, such as physical assets, which are likely to have relatively short asset lives (four to five years).²⁸
- 3.44** We considered case studies on large-scale migration of users to new infrastructure – in payment systems and in the water utilities sector, as outlined in Annex 1. We were not able to obtain information about the costs and risks of the migration in these case studies. However, they demonstrate that it is possible to handle a large-scale migration of users or connection points to new central infrastructure, including critical real-time systems. In the water sector, Supervisory Control and Data Acquisition (SCADA) systems – a critical, real-time communication system – are replaced periodically. This requires extensive end-to-end design, migration planning and testing of the new system, given the risk of disruption to the service provision. However, these systems are replaced around every 10 to 15 years to benefit from technological advancements and changes in requirements.
- 3.45** In summary, there would be some costs and risks involved with changing central infrastructure provider, but these are largely unknown until the migration scenario is identified. We have decided VocaLink would not have a material incumbency advantage due to switching costs, given the likelihood of changes in the system requirements, particularly for Bacs and FPS, and the Mastercard undertakings for LINK.

Existing relationship

- 3.46** A central infrastructure provider to a systemically important payment system, such as Bacs, FPS or LINK, must be able to provide a high quality of service featuring, in particular, high levels of resilience and security. Because VocaLink, as the incumbent supplier, has an existing relationship with those overseeing the procurement, it can demonstrate its ability to provide a high-quality service. As set out in our final report, stakeholders perceive VocaLink to have a good track record of providing a high quality of service.²⁹ This could give VocaLink a material incumbency advantage over alternative providers, who might not be able to demonstrate their service quality through an existing relationship.

²⁷ PSR MR15/2.3, paragraph 4.227 to 4.228.

²⁸ PSR MR15/2.3, paragraph 4.222.

²⁹ PSR MR15/2.3, paragraph 4.121.

- 3.47** One alternative provider said that VocaLink has an advantage because of its existing relationship with PSPs. In contrast, two alternative providers told us that competing against providers that have existing relationships with the procurer is part of doing business in this market. In our view, an incumbent provider would have some advantage from having an existing relationship with the procurer, but we do not consider this would hinder the effectiveness of a competitive procurement. Also, as noted in our final report, PSPs have switched away from their incumbent provider of gateway solutions when there has been a positive business case for doing so.³⁰ This indicates that an existing relationship is not, in itself, likely to create an incumbency advantage for an existing provider that is material in a future procurement.
- 3.48** Potential providers can also demonstrate their service quality in ways other than by having an existing relationship with the operators. Alternative providers operating in other jurisdictions have been able to build their reputation and establish track records of their service quality, as noted in our final report.³¹ Similarly, other organisations may have established reputations and service track records in other areas.
- 3.49** No alternative providers raised any concerns about VocaLink's existing relationship, or about establishing a track record of service quality, in competing against VocaLink in a competitive procurement.
- 3.50** Therefore, we do not consider that VocaLink has such an incumbency advantage from its existing relationship that will hinder the effectiveness of a competitive procurement exercise.

Other regulatory developments

- 3.51** We have identified three regulatory developments that might affect the willingness of alternative providers to compete to provide central infrastructure services in the UK:
- The special administration regime under FSBRA, which HM Treasury plans to bring into force and has recently consulted on.³² Within FSBRA, HM Treasury has the power to designate a company (such as an infrastructure provider) as an infrastructure company if it meets the relevant criteria.
 - Other potential changes – for example, if there were to be more direct regulatory oversight of infrastructure providers by the Bank of England.
 - The UK's exit from the EU which, among other things, could result in changes to UK data protection laws.
- 3.52** Many alternative providers said they would not have a concern if there was more direct regulatory oversight of infrastructure providers' activities in the UK. They noted that their activities in Europe are already overseen by regulators – by the European Central Bank (and the designated national central banks) and other national regulatory authorities. They have also indicated that they would not have any concerns with a requirement to have a registered office in the UK. One of them told us that it already operates in different jurisdictions that have different data protection laws. At this time, we therefore believe that the developments we identified are unlikely to hinder the effectiveness of a procurement remedy.

³⁰ PSR MR15/2.3, paragraph 5.35.

³¹ PSR MR15/2.3, paragraph 4.205.

³² HM Treasury Rules on ensuring the effective functioning of a financial market infrastructure special administration regime (11 November 2016): www.gov.uk/government/consultations/rules-on-ensuring-the-effective-functioning-of-a-financial-market-infrastructure-special-administration-regime

- 3.53** Several alternative providers have indicated that they would not be willing to compete if it was a requirement to have data centres located in the UK under any of these regulatory changes. We note that only two alternative providers to VocaLink already have a UK data centre. Those that do not currently have data centres in the UK said they would therefore need to duplicate their data centres. They said this would significantly increase their cost base and they would not be able to benefit from economies of scope using their existing data centres and infrastructure (see paragraph 3.21). However, we are not aware that any of the regulatory changes we have identified will require UK-based data centres, and consequently conclude that they do not affect the effectiveness of a competitive procurement.
- 3.54** One stakeholder said that it should be a requirement that data centres are located in the UK for security and performance reasons. In our view, and as noted in paragraphs 3.21 and 3.53, such a requirement could create a barrier to entry for some alternative providers and could negatively affect competition in the provision of central infrastructure services in the UK.

Summary of general observations

- 3.55** We have decided VocaLink would not have a material incumbency advantage due to the extent of bespoke requirements retained, switching costs and existing relationships – in future procurements (see paragraphs 3.31 to 3.50). For Bacs, we consider that VocaLink could have a material incumbency advantage in a like-for-like procurement, but in our view the next procurement is unlikely to be on this basis.
- 3.56** We find that the UK bespoke messaging standards and VocaLink’s current ownership would inhibit the effectiveness of a competitive procurement because:
- they act as barriers to entry that deter some potential providers from competition
 - under the current ownership arrangements the four largest PSPs have the ability and incentive to select VocaLink over other providers
 - the bespoke messaging standards raise VocaLink’s incumbency advantage
- 3.57** However, these issues will be addressed through our messaging standards remedy and the sale of VocaLink – which we consider in Chapters 4 and 5. Therefore, a competitive procurement remedy will be effective.
- 3.58** We also consider that there are sufficient credible alternative providers and that regulatory developments should not negatively impact on the effectiveness of any competitive procurement.

Assessment of effectiveness of each option

- 3.59** We now assess the effectiveness of the three remedy options outlined in paragraph 3.8.

Option 1 – Guidelines, and Option 2 – Procurement strategy

- 3.60** Under the first option, we would set out best-practice guidelines for procurement. These would contain the main elements that we consider would constitute an effective procurement exercise. We would not compel operators to follow these or to conduct a competitive procurement exercise.
- 3.61** Under the second option we would require the operators to develop and publish a procurement strategy. We would not specify any elements of the strategy, nor would we require the operators to follow it. However, we could require that the strategy is approved by us and/or that it is audited by an independent third party. In response to our remedies consultation, one PSP considered this would be an effective and proportionate remedy.

3.62 Neither of these remedy options would require the operators to run a competitive procurement. FPSL and LSL indicated that they intend to run competitive procurement exercises in the future. However, we do not consider that this provides enough certainty about the likelihood or the quality of such exercises. We consider it is important that any remedy ensures that, except in exceptional circumstances, a competitive procurement exercise would take place at the next opportunity.

3.63 We have therefore decided that remedy options 1 and 2 will not be effective.

Option 3 – Mandating competitive procurement

3.64 This option would require that competitive procurement is undertaken. We first consider why this would be an effective remedy in principle. Recognising that there are a number of possibilities for how we could mandate competitive procurement, we then go on to consider the elements required to make it effective.

3.65 Many stakeholders that responded to our remedies consultation supported mandating competitive procurement or said it was an acceptable remedy in principle. One stakeholder disagreed; it said that operators should be allowed to renegotiate contracts, as they had done in the past, as this is more practical. As noted in our final report, this would not result in effective competition.³³

3.66 As set out in paragraphs 3.10 to 3.58, we do not consider there to be particular market features that would prevent competitive procurement exercises from being effective; therefore, we consider that undertaking competitive procurement exercises will lead to effective competition for the provision of central infrastructure services. We therefore conclude that a remedy mandating competitive procurement would be effective in principle because it would provide a high degree of certainty that a good-quality competitive procurement exercise would take place.

3.67 We considered what would be required to ensure that any competitive procurement exercises are of good quality and therefore effective. We set out below the elements we have considered in deciding how to specify an effective competitive procurement. We have also included requirements which may be needed to allow the effectiveness to be monitored. The elements which we consider are:

- basic requirements
- whether the operators or an independent third party should manage the procurement process and whether to have an independent audit of the competitive procurement process
- a possible additional requirement for a discovery phase in a Bacs procurement
- the timing aspects of the proposed remedy
- the interaction of the remedy with the work of the Forum
- potential exemption to our remedy due to unforeseen circumstances
- the need for reporting requirements on the operators' progress
- consistency with relevant laws and regulations
- implementation risks

Basic requirements

3.68 We want to ensure that a competitive procurement takes place. We are therefore directing that if an operator enters into or renews a contract for central infrastructure services, it must have undertaken a competitive procurement exercise using a transparent and objective process to select the provider. This is currently not a requirement.³⁴

³³ PSR MR15/2.3, paragraph 4.73.

³⁴ PSR MR15/2.3, Box C and E.

- 3.69** This remedy would be placed on the operators of Bacs, FPS and LINK. It would be implemented by issuing a specific direction, placed by reference to the role of the operator, as defined in FSBRA, rather than the specific legal entity which undertakes the role of operator in relation to each system at the current time (see paragraph 3.108).
- 3.70** Stakeholders had contrasting views on taking a principles and outcomes-based approach to the design of this remedy, rather than prescribing in detail the procurement process that must be followed. Vocalink, two alternative providers and one other stakeholder supported our approach of specifying only high-level elements of the procurement process. Two of these added that being overly prescriptive could limit an operator's flexibility and negatively affect the outcome of a procurement exercise. However, three other alternative providers said we should set out more details around the elements we specify to ensure that the operators run a fair, transparent and objective procurement process.
- 3.71** We consider that we should not prescribe in detail the procurement process that must be followed as this may have unintended consequences and prevent the process being as effective as possible. We therefore conclude we will specify only the high-level elements of the process that we consider are key to the effectiveness of the remedy and which reflect best practice (see paragraph 3.73). However, we outline below what we expect the operators to consider, as a minimum, when planning and running their procurements. We will then monitor operators' compliance with our remedy via a reporting requirement. This reporting requirement, set out in paragraphs 3.146 to 3.154, will allow us to verify that an effective competitive procurement takes place.
- 3.72** In identifying the key elements of a procurement process, we have taken account of stakeholder comments and relevant examples of competitive procurement exercises in other areas, including the best-practice standards used in the EU public procurement directive. A summary of these examples is included in Annex 1. None of the stakeholders disagreed with the elements of the process as outlined in our remedies consultation; some had comments about what the elements should involve, which we considered in paragraphs 3.74 to 3.78.
- 3.73** We therefore conclude that the procurement process should include the following elements:
- development of a strategy for the procurement
 - consultation with service-users, including PSPs and end-users, for example about what services they consider should be procured
 - fair and transparent engagement with potential providers prior to the tender process
 - a transparent and objective process to shortlist potential providers for the tender process
 - a formal tender process to select the new provider, that is likely to attract two or more bids, based on transparent and objectively justifiable award criteria
- 3.74** Developing a clear, well-thought out strategy at the beginning of the process can help ensure that a procurement is run efficiently and effectively. The strategy should cover how the operator plans to proceed with its procurement, including its planned approach to incorporating the elements we require and their timing, and should note any perceived risks. For an operator of Bacs and FPS, the strategy should also cover how the operator plans to take account of the Forum's work (see paragraphs 3.106 to 3.141). We expect the operators to allow themselves sufficient time to prepare their strategies ahead of each procurement cycle. The operators (or a future operator of these systems) will need to develop a procurement process that is truly competitive and provides the best possible outcome for consumers.

- 3.75** To maximise the benefit to service-users, the central infrastructure services being procured should be based on service-users' wants and needs. Therefore, as part of the preparation for the procurement exercise the operators will be required to consult service-users, including PSPs and end-users, about the services they wish to receive and, in turn, may want the operators to procure. FPSL noted in its response to our remedies consultation that an operator should consult service-users to understand their needs, but the operator is best placed to determine how to deliver the services that best meet these needs. We recognise that this may be the case, but we expect the operators to demonstrate how they have taken the views of all relevant service-users into account. The operators of Bacs and FPS will also be required to take into account the views of service-users, to the extent they are applicable, that were expressed in the context of the Forum's work (see paragraphs 3.106 to 3.141).
- 3.76** Engagement with potential providers forms part of typical market testing practices that can help inform the operators about their potential options. The operators should ensure that potential providers are treated fairly and a transparent engagement process is followed. We have therefore reflected this in the wording of our requirement. Two alternative providers noted that the operators should engage with potential providers early in the process, in parallel with consulting service-users and defining the service requirements. They said this would help to attract providers and promote innovation. We recognise the benefits of early engagement with potential providers and service-users before defining the requirements, but we do not consider it appropriate to prescribe the order in which these elements should occur. It would be for the potential providers, in response to the service requirements set out by the operator, to define the technical solutions for the services being provided.
- 3.77** We expect the operators to demonstrate to us their plans for, and progress in, engaging with service-users and potential providers. For Bacs and FPS procurement, this should also include their plans for, and progress in, taking the Forum's work into account in regard to service-user consultation. We also expect operators to demonstrate to us how this work has informed the service requirements they plan to procure.
- 3.78** A transparent and objective process for shortlisting potential providers and formal tendering are important elements of any competitive procurement process. For these stages, we would expect all potential providers to be given the same information including, among other things, the procurement stages, timeframes and tender documentation setting out clear and detailed requirements and selection criteria. The operators should have objectively justifiable selection criteria and be objective in evaluating providers and their proposals against these. We have reflected this in the wording of our requirement. Our expectations reflect stakeholders' responses to our remedies consultation and best practice. One alternative provider said that operators should publish minutes of any meetings or communications with potential providers, but we consider this to be overly prescriptive.

Additional requirements – independent audit or third-party-run procurement

- 3.79** In our final report, we proposed that additional requirements could be included in the competitive procurement process.³⁵ These were either to require an independent audit of the competitive procurement process, or that an independent third party run the process on behalf of the operators. These requirements could help address any perception that the competitive procurement process would not be credible – in particular, due to current ownership arrangements (see paragraph 3.20).
- 3.80** In our remedies consultation, we provisionally decided not to require an independent audit or that an independent party should run the process. Alternative providers had contrasting views on this. Two said it is a necessary requirement to give alternative providers assurance that the competitive procurement exercises are credible and objective. One of these did not consider that the sale of VocaLink would address the common ownership arrangements. In contrast, one said that imposing this would be disproportionate and is not a common requirement. None of the stakeholders had any comments on our provisional decision not to require that an independent third party run the process.

³⁵ PSR MR15/2.3, paragraph 8.57 d.

- 3.81** As outlined in Chapter 5, we conclude that the sale of VocaLink will resolve the issues we identified with the current ownership arrangements and address providers' perception that this would be an issue. Also, as noted in paragraph 3.71, our reporting requirement will allow us to verify that an effective competitive procurement takes place. Therefore, neither of the additional requirements are necessary for the procurement to be effective. We therefore consider that imposing these requirements would be disproportionate. Furthermore, in our view, in the case of an independent third party running the procurement, the requirement could be detrimental. This is because it may introduce uncertainty about ownership and responsibility of the process and its outcomes. We consider it would be better if the operators are responsible for both defining their requirements (in consultation with their users) and evaluating the bidders' proposals. The operator would also own and manage the future contractual relationship.
- 3.82** We therefore conclude these additional requirements are not necessary for an effective remedy.
- Additional requirement – discovery phase for Bacs*
- 3.83** We also considered whether there should be an additional requirement of a discovery phase for the Bacs procurement. For this, VocaLink would give other potential providers access to its staff and disclose certain information that would help non-incumbents better understand the Bacs system requirements.
- 3.84** This requirement is based on the suggestion by one alternative provider that a discovery phase would reduce the knowledge incumbency advantage if a Bacs procurement retained the existing bespoke requirements (a like-for-like procurement – see paragraphs 3.27 to 3.35). The provider described to us a discovery phase that gives shortlisted potential providers onsite access to VocaLink staff and running of the system for a period of three months. For this requirement, we would need to require VocaLink to provide the necessary access to its staff and information as it is not otherwise obliged to under current contracts.
- 3.85** We recognise that in a like-for-like procurement, a discovery phase onsite at VocaLink would give non-incumbents a better understanding of the system requirements and, in turn, more confidence in competing against VocaLink. Bacs currently has complex requirements. The more existing bespoke requirements that are retained, the higher VocaLink's knowledge advantage would be (see paragraph 3.27) – a discovery phase could help to reduce this advantage.
- 3.86** However, it is likely that the system requirements for Bacs will change once the operator has consulted service-users on their needs (see paragraph 3.31). This would lower the incumbency advantage so that a discovery phase will not be necessary. Also, many stakeholders noted that a discovery phase with VocaLink staff would not be necessary if the Bacs system requirements change significantly. One alternative provider added that, even if it was a like-for-like procurement, it would not need to understand how VocaLink implements the service requirements to compete. Rather, this provider and two other stakeholders said that competing providers would benefit more from meeting with the operators to get a clear understanding of the requirements as part of the procurement process. This would include requirements related to any individual workarounds and interactions with overlay and cross-scheme services within the system. Based on this evidence, we therefore conclude that it is not necessary to require a discovery phase, as described in paragraph 3.84, in the next Bacs procurement.
- 3.87** We do not consider a discovery phase is necessary for FPS and LINK. The current requirements of these systems are not very complex and could be interpreted by alternative providers from clearly defined specification documents (see paragraph 3.29). FPSL also told us that, for a FPS procurement, potential providers would be able to get all the relevant information about the system requirements for the next procurement from FPS staff, who have the necessary knowledge of what is required.

3.88 We note that it is important for any effective procurement that the operators have clear, well-defined requirements – including individual workarounds and interactions with overlay and cross-scheme services – and that the operators allow for sufficient communications with potential providers to ensure they are able to understand the requirements of the procurement. The operators may also incorporate a discovery phase into their procurement process if they consider it is beneficial.

Timing of the remedy

3.89 The benefit of this remedy will first be seen when an effective competitive procurement takes place. We consider that it is important that a competitive procurement takes place so that the benefit of our remedy can be seen when the existing contracts end. We also consider that the operators should be required to undertake competitive procurements at regular intervals so that service-users continue to derive the benefits of competition. In the following paragraphs, we first consider when the first competitive procurement could take place and then consider the frequency of subsequent competitive procurements.

3.90 The timing of the first possible competitive procurement is linked to the termination dates in the existing contracts. The existing contracts for Bacs, FPS and LINK have different provisions. The Bacs and LINK contracts are open ended and can first be terminated on 1 December 2020 and 21 April 2021 respectively. These two contracts each have 24-month notice periods.³⁶ The FPS contract has an end date of 30 June 2020. BPSL and LSL told us that, to ensure supply of services, they would want to time the competitive procurement so they have signed the new contract with the winning provider by the time notice must be given. The new provider would use the notice period before the existing contracts end to build, implement and test its system, and to prepare for the migration of users, so that it is able to take over service provision when the existing contract finishes. [36.] One PSP noted that service-users – PSPs and corporate users – would need a minimum of two years to either migrate to a new provider or implement functionality changes. None of the other stakeholders raised concerns about the timeframe for migration. We recognise that the timeframe for migration or implementing changes would depend on a number of factors, such as the extent of changes being made. However, on balance we consider that 24 months is likely to be sufficient time for the next provider to take over the service. Based on signing the next contract 24 months before the current contract ends, the operator of Bacs, FPS and LINK would need to have completed the first competitive procurement process by December 2018, June 2018 and April 2019 respectively.

3.91 We considered how much time is needed to run a full competitive procurement as outlined in paragraph 3.73. Based on stakeholder information, we expect that the formal part of a competitive procurement – the process to shortlist bidders, the tender process and contract negotiations – would take at least six months. FPSL told us in response to our remedies consultation that the formal part of a competitive procurement would take much more time than six months, given the significance of the services being procured. We acknowledge this, but we also note that other stakeholders have told us that they have participated in tenders for central infrastructure services that have taken around six months. We expect the less formal parts – developing a strategy, service-user consultation and engagement with potential providers – to take an additional six months or more. This would include work to determine the system requirements that will be procured. In paragraphs 3.92 to 3.100, we consider whether there is sufficient time for the operators to complete the procurement exercise, taking these timings for procurement and the existing contracts' termination dates into account.

3.92 FPSL told us that it is planning to run a competitive procurement within this timeframe. We note that FPSL has already started developing its procurement strategy and it expects to have issued its invitation to tender to the market by autumn 2017. We therefore consider that it is capable of running a competitive procurement to have a winning provider in place to this timeframe.

³⁶ PSR MR15/2.3, Box C.

- 3.93** BPSL told us that it should be able to run a competitive procurement process on a like-for-like basis in this timeframe. It also said it could meet this timeframe if it amended the requirements to incorporate a new messaging standard, but the process would likely take more time if it needed to materially change the requirements and build a new system. It added that the process would be more complex if it had to simultaneously re-procure overlay and cross-scheme services currently provided by VocaLink – such as the Bank Reference Database Services, the Current Account Switch Service and government services.³⁷ While we acknowledge the complex requirements of the Bacs system and the interaction with overlay and cross-scheme services, the operator will not be required to give notice until December 2018 (as its contract terminates later than for FPS). Furthermore, messaging standards is one of the key requirements that would have to change for a competitive procurement to be effective (see paragraph 3.30). This relates to implementing our messaging standards remedy, which the operator has already begun addressing (see paragraph 4.34). We also think it is important that the benefits of competitive procurement are not delayed unless necessary. Therefore, while we recognise we are proposing a relatively ambitious timeframe, we consider that the operator of Bacs should be able to comply with this.
- 3.94** Some stakeholders noted the possible impact of the Forum’s work on the timescales for Bacs and FPS procurement. We consider this in paragraphs 3.106 to 3.141 below, and conclude that the Bacs and FPS operators could apply to us for a later date to complete a full competitive procurement in relation to this work.
- 3.95** LSL was concerned about the timing we proposed. It said the operator should decide when to run a competitive procurement, or that it should have an additional two years – so that it could serve notice by April 2021 to terminate in April 2023. It said it would not be appropriate for it to run a competitive procurement by April 2019 for several reasons:
- If LSL was to complete a competitive procurement by April 2019, it would look to start the process in Summer 2017. [REDACTED]
 - It had completed a procurement exercise that had some competitive elements – the LINK RFI – in early 2015 so running a competitive procurement by April 2019 might not deliver material benefits beyond what it had already received.
 - [REDACTED]
- 3.96** As noted in paragraph 3.62, we consider it important that our remedy ensures that, except in exceptional circumstances, a competitive procurement exercise would take place at the next opportunity. We therefore conclude it is important to specify the date this should occur.
- 3.97** [REDACTED]. We consider that the operator would be able to begin the early stages of its competitive procurement exercise – developing its strategy and defining the service requirements – [REDACTED] in line with the timeframe LSL has indicated. It would in any event be possible to start this early work while the interchange fee issue is still being resolved. We note it is also possible to begin a formal tender on the basis of different potential guarantees of transaction volumes, or possibly a cost indemnity [REDACTED.] We also note that, as the first possible point to serve notice on the current contract approaches, a prudent operator would in any event begin to consider whether to terminate the contract and re-procure central infrastructure at about this time.
- 3.98** Regarding the LINK RFI process, we had found in our final report that, while having some elements of market testing, the process was not sufficient to introduce effective competition.³⁸ Therefore, a full competitive procurement exercise at the next possible termination date (April 2021) would deliver material benefits and it is important that the delivery of these benefits is not delayed. We also outline from paragraph 6.86 our assessment that our remedy for LINK would deliver benefits and would be proportionate. [REDACTED.]

³⁷ This includes Bulk Payment Redirection Service that is delivering a solution for the banking community ring-fencing requirements in readiness for January 2019.

³⁸ PSR MR15/2.3, paragraphs 4.52 to 4.56.

- 3.99** Overall, we therefore consider that the operator of LINK is able to comply with the timeframe to run a competitive procurement by April 2019, having regard to the possibility of using the exceptional circumstances exemption.
- 3.100** Given paragraphs 3.92 to 3.99, we therefore conclude that our remedy should apply so that the winning providers are identified and able to commence providing services to coincide with the termination dates outlined in paragraph 3.90. For Bacs and FPS, this timing is subject to the transitional arrangements of the NPA set out in paragraphs 3.114 to 3.141.
- 3.101** We considered the frequency with which such procurement exercises should be conducted. We note that contracts for central infrastructure services have historically been between five and ten years. Five stakeholders have told us that contracts need to be more than five years – possibly up to ten years – to provide economic value. However, one alternative provider told us that it may be willing to bid for short contracts, in particular where this would allow it to enter the UK market for the first time and place it in a better position to bid for future contracts. Five stakeholders said that a contract length of ten years or less is appropriate, with two of these adding that a ten-year contract for an established system is too long. One of these noted that in the Single Euro Payments Area (SEPA), where PSPs have low switching costs due to interoperability and open standards, PSPs' contracts with providers are sometimes only two to three years. In contrast, one PSP noted that a ten-year contract may be needed to allow a provider to achieve a return on its investment.
- 3.102** We agree that contracts shorter than five years may not always provide value for money. The appropriate contract length would depend on the specific circumstances, such as the costs involved (for example, switching and implementation costs) and the type of services procured. However, we consider that a contract length of more than ten years would be too long, given the pace of changes in technology.
- 3.103** Based on the evidence in paragraphs 3.101 and 3.102, we conclude that the operators must run a competitive procurement at least every ten years. We would expect the operators to consider what would be an appropriate contract length given the circumstances of the procurement, and to provide justification of this in their reports to us.
- 3.104** As noted in paragraphs 3.55 to 3.58, it is important that our messaging standards remedy and a change in the ownership of VocaLink are completed before the competitive procurement decision is made. This will ensure that a competitive procurement exercise is effective.
- 3.105** Stakeholders had contrasting views on whether it would be beneficial for the operators to run competitive procurements at a similar time. Those opposed were concerned that alternative providers would not be capable of competing for multiple contracts at a similar time. However, an alternative provider told us that it was competing for over five contracts simultaneously at that time. Therefore, we do not believe that running competitive procurements at a similar time would limit the number of potential bidders.

Interaction with the Forum

- 3.106** We considered the interaction of our procurement remedy with the work of the Forum. In our view, three elements of the Forum's work are particularly relevant in designing an effective remedy³⁹:
- In setting a long-term strategy for UK payments the Forum has helped identify certain user needs.
 - Payment system governance consolidation: The Forum has proposed the consolidation of the governance of the Cheque & Credit (C&C), Bacs and FPS systems – that is, consolidation of the operators – into one new entity, the new payment system operator (NPSO). LINK's governance would not be part of this consolidation. The new entity would have responsibility for, among other things, the rulebooks and procurement. This consolidation is proposed to be completed by the end of 2017.
 - The Forum's long-term vision for a NPA: The Bacs, C&C and FPS systems would be in scope (not LINK). The Forum has proposed that this solution is taken forward over the coming years. In the next year it expects to outline the design and requirements of the proposed solution, including if any central infrastructure is required to support it, and to create a plan for its development, testing, implementation and migration. While a number of design elements are still to be developed, broadly the Forum is proposing that the central infrastructure services for payment systems would be smaller in size, focused on facilitating the exchange of payment messages between PSPs, and overlay services being developed on a competitive basis and provided to individual PSPs.

Work of the Forum and service-users' needs

- 3.107** To the extent that the work of the Forum reflects service-user needs in relation to Bacs and FPS, it would be inefficient for the operators to prepare for a competitive procurement in isolation of this work. Therefore, we consider that the remedy should also include a provision that these operators have regard to the work of the Forum.

Governance consolidation

- 3.108** We recognise that the proposed consolidation would have an impact on the implementation of our remedies and some details of the consolidation are yet to be finalised. For the procurement remedy to be effective it should apply to any operator of the Bacs and FPS (and LINK) systems, and not merely the current operator. No stakeholders raised concerns about this approach. We therefore conclude that the remedy will apply to any operator of these systems, including the NPSO where relevant, and not merely the current operators (see paragraph 3.69).
- 3.109** However, if necessary, we intend to take any further steps required to apply this remedy to the new consolidated entity, as appropriate, having regard to the circumstances at the time, to ensure it competitively procures any future central infrastructure that is required, including any infrastructure to support the NPA.
- 3.110** We had considered the possibility of applying our remedy as a general direction on direct member PSPs of the three payment systems. This would require that any central infrastructure they use is procured through a competitive process. Applying it on direct PSPs would ensure that the remedy would remain enforceable following the governance consolidation. However, we determined that this approach would be complex to design and enforce. It would also apply to those direct PSPs which have little control over procurement decisions of governing bodies. We therefore decided against this approach.

³⁹ Payments Strategy , *A payments strategy for the 21st century – final strategy* (November 2016): <http://consultation.paymentsforum.uk/final-strategy>

3.111 BPSL and three PSPs raised concerns about the timing of the consolidation and of our remedy. These stakeholders said the NPSO would need time to consider its procurement approach after consolidation is completed at the end of 2017. However, they said early stages of the procurement process for the existing FPS system, and possibly Bacs, would need to have started by this time if a competitive procurement is to be completed to our remedy's timeframe – by June 2018 and December 2018 for FPS and Bacs respectively (see paragraph 3.90). BPSL added that splitting procurement responsibilities between the existing and new operator could negatively affect the procurement. BPSL and two other stakeholders noted that there needs to be close coordination between the existing operators, the group delivering on the consolidation (the consolidation delivery group) and, where appropriate, the Forum's work on the design and implementation of the NPA.

3.112 We have considered the timing of consolidation and its impact on our remedy's timeframe due to transitional arrangements of the Forum in paragraphs 3.114 to 3.141. We understand that the existing operators have been participating in the Forum's development of the NPA and the consolidation delivery group, and we expect that this will continue. This coordination would help ensure the procurement meets service-users' needs and is run to our remedy's timeframe.

3.113 The operators, in taking account of service-users' needs in defining the requirements of the services, may also wish to fulfil some of their obligations jointly in the period prior to consolidation, where appropriate. In some circumstances this may be more efficient. We note that it would be for the operators to consider whether and how to do this, including considering any competition law issues raised.

New payments architecture (NPA)

3.114 The proposed NPA may also have an impact on our remedy. The Forum's final strategy proposes a scenario where the new payments architecture goes live at the end of 2020. This is around the time our remedy would require the operators to have the next central infrastructure provider(s) in place (see paragraph 3.90). The Forum will look into the transition and migration to the NPA over the coming year. We note that these transitional arrangements could involve a period of parallel running with the existing Bacs and FPS systems.

3.115 If the Forum's proposals are implemented by these dates and there is a period of parallel running, the operator of Bacs and FPS will need to procure central infrastructure (similar to the current central infrastructure) for these two systems for a period. We recognise in this scenario that, if the length of the next contract is not long enough, undertaking a full competitive procurement exercise for Bacs and FPS, as required in our remedy, may not be a cost-effective approach to procurement. This may be because, for example:

- It may not be economic – the benefits of running a full competitive procurement may not outweigh the costs involved. A shorter contract length could mean that there is less time for provider(s) to recoup costs, which might result in a higher contract price and less innovation and benefits for service-users. There would also be less time for member PSPs to recoup costs, such as implementation costs, and, if applicable, switching costs. But a procurement process involving fewer steps than a full competitive procurement could test whether a shorter contract length could provide sufficient benefits.
- Alternative providers may not invest the resources required for a full competitive procurement to compete for a short contract. Alternative providers and other stakeholders indicated that it is unlikely to be economic for potential providers, other than the incumbent, to bid for a short contract – some alternative providers said this applies to contracts shorter than five years (see paragraph 3.101), while FPSL noted this applies to contracts of three years.⁴⁰ However, as noted in paragraph 3.101, one provider told us it might be willing to bid for a shorter contract to become established in the market. We also note that a procurement process involving fewer steps than a full competitive procurement could be a more cost-effective process for alternative providers to participate in.

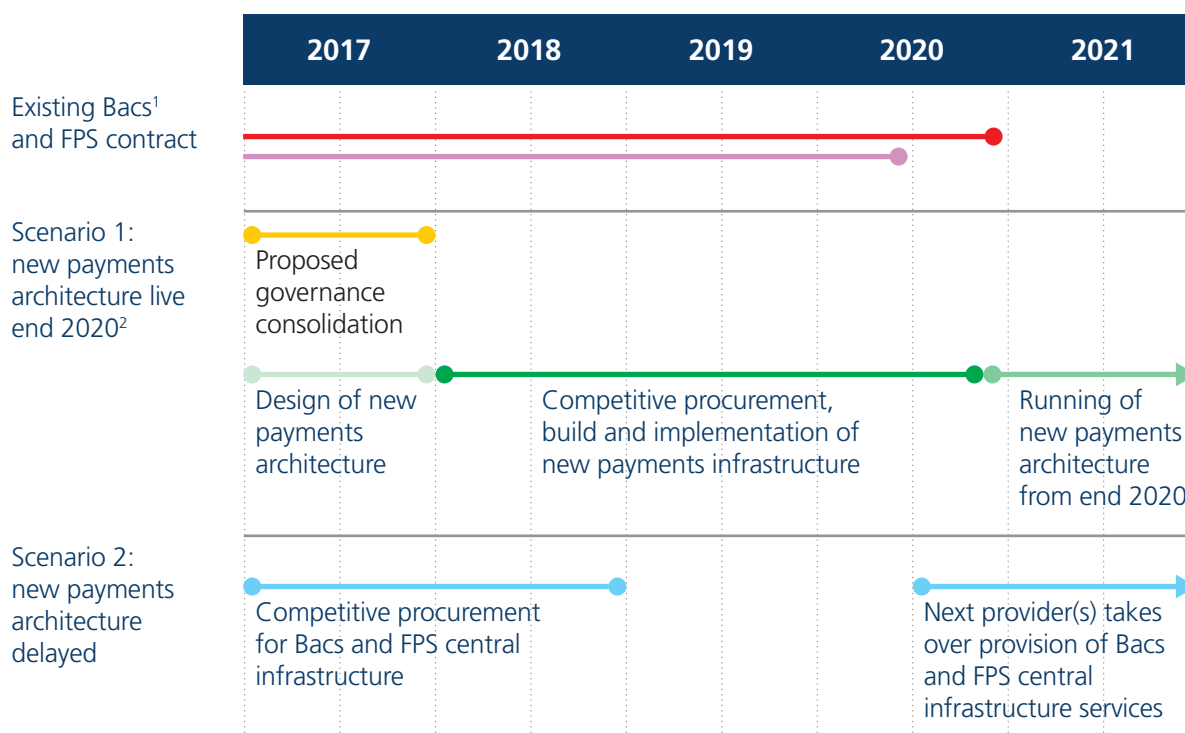
⁴⁰ PSR MR15/2.3, paragraph 4.30.

3.116 However, another possible scenario is that the development and implementation of the Forum’s NPA might take longer than anticipated in the Forum’s strategy. If the implementation timetable is such that the Bacs and FPS systems will continue to run for a long enough period before the Forum’s new architecture is implemented, it could be economic to undertake a full competitive procurement for enhanced central infrastructure services for the Bacs and FPS systems that reflect current and future end-user needs.

3.117 Figure 1 shows different example scenarios for the procurement of central infrastructure in the future. These timelines are indicative based on current information. Scenario 1 assumes that the Forum’s final strategy is implemented to its proposed timeline. Scenario 2 reflects the situation where the Forum’s NPA is delayed, such that a full competitive procurement of enhanced services for Bacs and FPS could take place.

Figure 1

Potential timelines of Forum’s initiatives and the existing Bacs and FPS contracts¹



¹ The Bacs contract is open-ended; the date here reflects the first date it can be terminated (with 24 months’ notice).
² Timings based on current dates proposed by the Forum, subject to change.

3.118 Given the uncertainty around the likely time required for transitional arrangements, a number of scenarios could arise that affect whether a full competitive procurement approach for Bacs and FPS would deliver value for money. We therefore proposed in our remedies consultation to allow the operator of Bacs and FPS to apply to us for an exemption from certain elements or all of our remedy in relation to these transitional arrangements.

3.119 We considered stakeholders’ feedback on allowing for an exemption for transitional arrangements.

- 3.120** Three PSPs said that, instead of an exemption, we should postpone implementing our remedy for Bacs and FPS or give the operators more time before requiring them to serve notice. BPSL also said we should consider postponing implementing our remedy for Bacs for six to twelve months to allow for additional clarity around the NPA and the timing requirements of the Bacs procurement. These stakeholders said it would be difficult, complex and risky to run a competitive procurement to the timeframes we proposed given the timing of the Forum's work (see paragraphs 3.90 and 3.114). BPSL, FPSL and one PSP said that it is disproportionate and inappropriate to impose our remedy to timeframes outlined in paragraph 3.90, as they argued that we would do so knowing the operator would have to seek an exemption related to the NPA. They said the operators would incur the costs of preparing for a full competitive procurement that might not happen.
- 3.121** BPSL, FPSL and five other stakeholders said that if we implement our remedy to the timelines in paragraph 3.90, then we should allow for the operators to apply to us for an exemption in circumstances where a full competitive procurement may not be effective or economic as outlined in paragraph 3.115.
- 3.122** In contrast, two alternative providers and another stakeholder said that we should implement our remedy but not provide for such an exemption because it could delay the running of procurements and its benefits, and alternative providers may lose interest in competing. Two other alternative providers had similar concerns. One said that the procurements for the existing systems could be designed to allow for flexibility in the services to transition to the NPA.
- 3.123** We consider it is important that the operators begin taking the necessary steps to consider and plan for the different competitive procurements which may take place. This would ensure there is the greatest opportunity to introduce effective competition. We therefore conclude that it is important to proceed with implementing this remedy according to the timelines we described in paragraph 3.90 in the first instance. We consider that given the contractual timelines which are set out in the current contracts operators have with Vocalink, a prudent operator would consider its options in terms of procuring the next contract in line with these timescales in any event.
- 3.124** However, we provide that the operators may apply to us to amend (i.e. delay) the date by which they (or a future operator of these systems) must comply with our remedy in full. Amending the date would be in place of seeking an exemption as initially proposed. We consider this amendment better reflects our policy intention of ensuring that there is the greatest opportunity to introduce effective competition early, in line with the existing contractual position, while recognising the need for flexibility in relation to work of the Forum. While we consider that this broadly achieves the same result as our previous proposal of allowing operators to seek an exemption, we consider that providing for the date for compliance to be changed better reflects, and clarifies, our decision. Allowing for an amended date, where warranted, would in effect allow the full competitive procurement requirement to be fulfilled in relation to the NPA. In such a scenario, the interim contract for parallel running of the existing Bacs and FPS systems could be entered into with either the incumbent or an alternative provider without running a full competitive procurement.
- 3.125** We considered whether to delay the timeframe for when operators must complete a full competitive procurement in the first instance. However, we concluded that that this may result in perverse incentives for the operators in that they may delay thinking about and planning for the different possible procurement scenarios.
- 3.126** We recognise that, given the timeframes of our remedy, an operator of Bacs and FPS would begin undertaking work to plan and run a competitive procurement at a cost. This may then be lost if it applies for the date to be amended. We would expect a prudent operator would plan early for a procurement given the contract end dates, so it is unlikely to be a significant sunk cost. However, given the uncertainty around the timing of the Forum's new architecture, we think it is necessary for operators to begin thinking about planning for the possible procurements.

- 3.127** We therefore consider that it is more appropriate to require competitive procurement in the first instance in line with the existing contractual dates concerning termination of the operator's contracts with VocaLink, while providing for flexibility around this where appropriate.
- 3.128** When making any application to amend the date for compliance, we expect an operator to make an assessment based on the progress of the work of the Forum and apply to us on that basis. Operators will need to demonstrate how their approach delivers the best value for service users taking account of the circumstances at the time. They will be required to explain their reasons to us, the new date they are requesting and what other steps they are taking to achieve an outcome that promotes the interests of service-users and delivers value for money in relation to any interim contract.
- 3.129** We recognise there may be trade offs in deciding whether to conduct a full competitive procurement. The operators will therefore need to consider whether any interim contract is procured via a competitive procurement with fewer steps than outlined in our remedy, or selected following a different process, and how this delivers the best value for money for service users. We recognise that allowing a later date to comply with our remedy would delay introducing the benefits of a full competitive procurement for Bacs and FPS. We expect an operator to apply to us only where the benefits of the introduction of the NPA are likely to outweigh the disbenefits of postponing competitive procurement, or running a more limited procurement. Their application should include how they have reached this view. We will consider these applications and approve them where justified. Where necessary, we may apply conditions. Such conditions may include requiring the operators to run a more limited competitive procurement for the interim contract where we consider it is appropriate. Any conditions we apply (and the steps we expect the operators to propose) would need to promote the interest of service-users. As set out in paragraph 3.128, the operator must justify the new date by which it would conduct a competitive procurement in full compliance with our direction.
- 3.130** As noted in paragraphs 3.115 and 3.116, the extent of changes made to the existing service requirements and the potential length of the next contract for Bacs and FPS would influence whether a full competitive procurement would be effective and economic for service-users. It will depend, to an extent, on the Forum's timeframe for implementing the NPA. We expect the operators, in the first instance, to take a view on this, which we would assess as part of any application. While we will consider any application in light of the circumstances at the time, we currently expect that:
- If a contract has the potential to be more than five years, we would not grant an amended date – this is based on stakeholder views that contracts of this length would be economic (see paragraphs 3.101 to 3.102).
 - If a contract has the potential to be three to five years, we would assess on a case-by-case basis at the time – this is because we consider that it is uncertain if a contract of this length could warrant a full competitive procurement and may depend on the specific circumstances. One PSP said we should allow an amended date for contracts of four years or less given alternative providers have said these contracts would not be economic (see paragraph 3.101). In contrast, one alternative provider said it may be willing to bid for short contracts (see paragraph 3.101). Therefore, we consider it appropriate to make a decision based on the circumstances at the time.
 - If a contract has the potential to be two years or less, we would be more likely to grant an amended date so that the operators could procure an interim contract using a more limited competitive procurement or other process. The operators would need to show what process they were following to promote the interests of service-users and deliver value for money – this is based on our view that contracts of these lengths are very short and a full competitive procurement may not be economic given the reasons outlined in paragraph 3.115.

3.131 If the Forum's new architecture goes ahead as planned and the operators are considering applying to us for an amended date, they will need to make a judgement about when to apply. On one hand, if they apply too early, there may not be sufficient clarity around the implementation of the NPA, and how it would impact on the existing Bacs and FPS systems. On the other hand, if they apply too late they may need to commence a competitive procurement in any event to ensure compliance with our remedy should the application not be granted. There are certain factors that the operators have to take into account in making such a judgement:

- **Delivery of the NPA blueprint:** The blueprint will provide details about the NPA, including implementation dates and the possible transition and migration process. This will give the operators more clarity about the impact on the existing Bacs and FPS systems, such as what system requirements should be procured and for what period. The Forum expects to publish the draft blueprint in July 2017 for consultation, and a final blueprint in December 2017.
- **Establishment of the new payment system operator (NPSO):** The NPSO will take on responsibility for procuring the Bacs and FPS central infrastructure. Consolidation is expected to be completed by end 2017, and the NPSO may need some time to consider its procurement approach and any application for an amended date (see paragraph 3.124).
- **Timing of procurements without an amended date:** As noted in paragraph 3.91, the operators would take at least six months or more to run the formal part of a competitive procurement – shortlisting potential bidders, the tender process and contract negotiations. Given the timing of our remedy and when the operators would want to complete their competitive procurements, the operators of FPS and Bacs would begin these stages around January 2018 and June 2018, respectively, at the latest (see paragraph 3.90). Before starting the tender stage, the operators would need clarity about the user requirements and the length of the contract they want to procure, otherwise the process might not be effective. The NPA blueprint would help to provide this clarity.

3.132 We recognise that for FPS that there may not be sufficient clarity around the implementation of the NPA when it would launch the tender stage of its procurement if it is not granted an amended date (sometime around Autumn 2017 – see paragraph 3.92). In such circumstances, it would be for the operator to consider whether to seek to change the date by a short period (for example six months or one year) in the first instance. This could, for example, allow it additional time to put in place plans or to deal with continuing uncertainty. The operator may then consider whether to apply for a second time to amend the date once there is greater clarity. We recognise there may be a risk of higher costs associated with having a very short contract length – for example, for one year as opposed to three years.

3.133 We would not normally expect to grant more than two amendments to the date based on the Forum's current timeframe. We expect that if operators seek an amended date a further time we would only grant this in exceptional circumstances. We will take into account the timelines in the Forum's blueprint and the progress that has been made in practice in achieving these in assessing an application.

- 3.134** We consider that there may be natural milestones when the operators may wish to seek an amended date to competitively procure for Bacs and FPS based on the factors outlined in paragraph 3.131:
- a) September 2017: This is two months after the Forum currently expects to produce a draft blueprint in July for the NPA. In our remedies consultation, we had proposed July 2017 as the first milestone, but given stakeholders comments about timing in paragraph 3.134b, we decided to move this date back to reflect the need for operators to consider the draft blueprint. September 2017 still aligns with the time around when FPSL expects to launch the formal part of its competitive procurement (see paragraphs 3.91 to 3.92).
 - b) February 2018: This is two months after the Forum expects to finalise the blueprint of the NPA (December 2017) and one month after the new consolidated entity is expected to be established. We had proposed December 2017 in our remedies consultation, but BPSL and two PSPs said this was too early. They said moving it back to early 2018 would give the NPSO, which would take over the procurement process, time to consider its actions after the Forum's final blueprint is published. We therefore conclude that February 2018 is a more appropriate milestone. This date is also around the time the operator of Bacs might begin the formal part of its competitive procurement based on the view it might need more time to run this (see paragraph 3.93).
 - c) May 2018: This is five months after the Forum expects to finalise its blueprint, at which time there would be greater certainty about the implementation of the NPA and the NPSO. This aligns with the latest point at which we consider the operator of Bacs could likely begin the formal part of its formal competitive procurement if it does not seek an amended date. This is based on our view that if the operator wanted to complete its competitive procurement by December 2018, it would have to launch the formal part of the process around mid-2018 (see paragraphs 3.91 and 3.93).
- 3.135** We consider that the operators should not apply to us before September 2017 to amend the date for compliance with our remedy in full. This is because the operators should wait until they have considered the draft blueprint and how transitional arrangements to the NPA affect the existing Bacs and FPS systems. We therefore consider the operators must not seek any application prior to September 2017, as we do not anticipate having sufficient certainty around these developments prior to that time.
- 3.136** Subsequent milestones might depend on the implementation dates contained in the blueprint or on the new agreed date to comply. However, we consider the latest date that the operators should apply to us is May 2018.
- 3.137** This deadline would ensure the operator has sufficient time to consider the final blueprint and a possible change in date to comply. We had proposed a deadline of 31 December 2017 in our remedies consultation. However, given stakeholders comments about timing in paragraph 3.134b, we consider that deadline was too early. FPSL did not support having a deadline for when operators could apply to us as unforeseen circumstances could arise after this deadline where derogation is in the public interest is needed. As noted in paragraphs 3.142 to 3.145, our remedy provides for exemptions due to unforeseen exceptional circumstances. We also consider a firm deadline for seeking an amended date will ensure the operators are proactive in considering their procurement strategies and what new date might be warranted.
- 3.138** We expect that the operators should have clarity by May 2018 about whether they should consider amending the date. This includes whether it would procure an interim contract and for how long. Should there not be sufficient clarity at this time, we consider that it is still appropriate for the operators to make a decision on the timing of the next procurement. This would ensure that the benefits of competitive procurement are not unduly delayed. If the work on the NPA is not sufficiently advanced to provide certainty by May 2018, it may be appropriate, having regard to the circumstances at the time, for the operators of Bacs and FPS to undertake a full competitive procurement for enhanced central infrastructure services for their systems. This could be for the transitional arrangements before the new architecture is implemented.

- 3.139** We considered whether to include cut-off dates for when, at the very latest, a full competitive procurement should take place following any amendment in the date for compliance. However, given the remaining uncertainty, we considered it would be better for us to take a view based on an assessment of the circumstances at the time and in light of the operator's consideration of this issue as set out in its application.
- 3.140** In terms of the reporting requirements, following the granting of an amended date, an operator will be required to begin reporting to us four years prior to the new date. This is based on our view that an operator would start thinking about the next procurement around this time, which is effectively two years' prior to when the subsequent contract would need to be signed (see paragraph 3.90). For example, if the amended date is three years later (amended from 2020 until 2023), reporting would begin in 2019 (four years prior to the 2023). If the date is one year later (from 2020 to 2021), an operator would continue reporting to us on its plans for the procurement in 2021. We outline our general reporting requirements in paragraphs 3.146 to 3.154.
- 3.141** Applications must be made to us in writing. In response to alternative providers' concerns and for transparency, if we grant an amended date we will publish our reasons for our decision while taking into account factors such as commercial sensitivity of the information. We will consider all relevant evidence when making our decision. As an application for an amended date will likely be time-critical, we would not normally expect to consult publicly on applications for amending the date or on the new proposed date.

Potential exemption to our remedy due to exceptional circumstances

- 3.142** We are implementing this remedy to ensure that any future procurement of central infrastructure services by a relevant operator is competitive. However, we recognise that there may be unforeseen exceptional circumstances where the operators believe, and we agree, that a full competitive procurement exercise, as required by our remedy, may not be the best approach, particularly if the costs of the exercise outweigh any potential benefits. This could arise in relation to any of the operators. In such circumstances, we proposed in our remedies consultation that we would consider granting an exemption on that occasion. This may be either an exemption from:
- certain elements of our competitive procurement remedy set out in paragraph 3.73 for the next competitive procurement the operator undertakes, or
 - all of the elements of our competitive procurement remedy (i.e. an exemption from undertaking a competitive procurement process at all) for a defined period
- 3.143** No stakeholder was opposed to us allowing for an exemption due to exceptional circumstances. FPSL said there may be instances where proceeding with a procurement or a contract is not in the interest of the public or financial stability. It gave the example where the operator may need to walk away from a contract because the provider is not meeting terms or the migration has led to unintended impact on users. This is an example of an exceptional circumstance where it would be for the operator to consider whether to seek an exemption. We therefore conclude that such a provision will be included in our remedy.
- 3.144** If an exemption is granted, a full competitive procurement would be required for the subsequent contract. Whenever we consider granting an exemption, we expect the operator to show how it expects to promote the interests of service-users and deliver value for money if the exemption is granted (this would include explaining the number of steps in the competitive procurement exercise it intends to follow). The operator must also consider and justify the new date by which it would conduct a competitive procurement in full compliance with our direction, if it continues to contract for the provision of central infrastructure after this date. We would specify such a date in any exemption approval.

3.145 The operators will be required to explain their reasons to us, which part(s) of the remedy they are seeking exemption from, the period of exemption they are requesting and what other steps they are taking. We will consider these applications and approve them where justified. Our assessment of these applications will depend on the circumstances at the time and we will take into account the relevant evidence when making our decision. As part of our assessment we will want to ensure the operators are achieving an outcome that promotes the interests of service-users and delivers value for money. Where necessary, we may apply conditions. The process we would follow in assessing an application would be adapted to the circumstances at the time. We would not normally expect to consult publicly on such an application. For transparency, we will publish our reasons for granting an exemption while taking into account such factors as commercial sensitivity of the information. We do not impose a time limit for applying for this exemption.

Reporting

3.146 Two alternative providers supported a reporting requirement on the operators so we can monitor their compliance with our remedy. One of these said reporting should occur every three months, starting in July 2017, to ensure the operators remain on track.

3.147 In contrast, FPSL and one PSP said that a formal requirement to submit detailed reports on a six-monthly basis, as we proposed in our remedies consultation, would be a disproportionate burden on the operators and on us. They said monitoring the operators' progress and compliance through regular meetings would be more appropriate. FPSL said an informal approach of providing us with frequent updates – similar to the monitoring of FPSL's Access Program – would be effective. We note that FPSL plans to meet with us every six weeks to provide informal updates on its procurement process. The first of these meetings was held in February 2017. BPSL noted that it would be difficult to fully meet the reporting requirements in July 2017, given the uncertainty around the development of the NPA and BPSL's procurement strategy at that time.

3.148 We consider that regular formal reporting is necessary to help ensure compliance with the direction, particularly because we have adopted a principles and outcomes-based approach (see paragraph 3.71). Such reports must provide:

- a description of, and evidence demonstrating, the operators' progress in preparing for and running competitive procurement exercises, including the main elements of a competitive procurement exercise (see paragraphs 3.73 to 3.78)
- the operators' plans in relation to whether or not to apply for an exemption
- for Bacs and FPS, a description of, and evidence demonstrating, the operators' progress in having regard to the work of the Forum

3.149 We have set out the specific points that the reports must cover in the reporting requirement section of the specific directions.

3.150 To ensure effective reporting in line with this requirement, we also expect the operators to consider and address in their reports the issues we have highlighted above, including:

- our minimum expectations of operators when developing their procurement strategies and their approach for incorporating the other elements of the process as set out in paragraphs 3.74 to 3.78 and 3.88
- the appropriate contract length given the circumstances of the services and procurement as noted in paragraph 3.103

- 3.151** We had proposed in our remedies consultation that reporting for all the operators begin in July 2017. However, we recognise that for Bacs and FPS we must balance our need to ensure the operators are on track with giving the operators enough time to evaluate developments related to the Forum. As we noted in paragraph 3.134 a and b, stakeholders expressed the view that the operators would need some time to consider the draft blueprint for the NPA which is due to be published in July 2017. We therefore conclude that the Bacs and FPS operators should start reporting in September 2017. We also conclude that September 2017 is an appropriate date for the operator of LINK to start reporting, both for consistency and because this falls shortly after the time when LSL told us it would need to start its work on any competitive procurement (see paragraph 3.95). We would, however, expect to meet with the operators in July 2017 for an informal update on their progress. This timing broadly aligns with our view that the operators should begin thinking about procurement around four years prior to contract expiry. After the first reporting date, we consider the operators should then continue regularly reporting in line with the stages of the procurements. However, as the timing of these stages is currently unknown, we require that in the first instance they report to us every six months, with the ability for us to adjust that timing in future. This frequency is a proportionate balance between our need to monitor the operators and the burden this imposes on them. We would normally expect to suspend reporting once the contract has been signed.
- 3.152** We would expect a prudent operator running a procurement would regularly prepare and present information about its procurement plans and progress to its board. Therefore, we consider our reporting requirement would not place a significant additional burden on the operators. We would expect the operators to take a proportionate approach to their reporting to us, particularly in light of the stage of the procurement process they are at.
- 3.153** While we do not require that the operators meet with us regularly in addition to the formal reporting, we note that frequent informal updates may benefit the operators. Informal updates could help make the process of formal reports more efficient for the operators as we are likely to require less clarification from them about their reports and procurement approach.
- 3.154** For subsequent competitive procurements, we would normally expect to require the operators to begin reporting to us four years before the termination of the contract date. This is based on our view that an operator would start thinking about the next procurement around this time.

Consistency with relevant laws and regulations

- 3.155** We considered whether this remedy is inconsistent with relevant laws and regulations, including the first Payment Services Directive (PSD), the second Payment Services Directive (PSD2), Payment Accounts Directive (PAD), AML legislation, and the ring-fencing requirement under FSBRA. We believe that our proposed remedy does not raise concerns of inconsistency with this legislation.

Implementation risks

- 3.156** We consider that it should be straightforward to implement this remedy. The requirement to undertake a competitive procurement exercise and report on progress should be relatively simple for us to specify and for the operators to understand. We recognise that it will require judgement by us to monitor and enforce the quality of a competitive procurement exercise being run. We will draw on the operators' progress reports for this.
- 3.157** In addition to the Forum's work, there are some other significant developments under way or expected within the payments industry. These include the ring-fencing requirements under FSBRA and the implementation of PSD2. These will have an impact on some participants in the payments industry, particularly current account providers and their payments infrastructure, and will require some of their resources. The implementation of our remedy will coincide with these developments.

3.158 We do not consider that this presents a risk to the implementation of our remedy. The costs of running a competitive procurement fall mostly on the operators as they are responsible for running it. In our view, they have ability to plan ahead to ensure they have sufficient resources.

Decision on the effectiveness

3.159 The purpose of our remedy is to establish effective competition by ensuring competitive procurements of central infrastructure services take place. We have decided remedy option 3 – mandating competitive procurement – is effective.

3.160 The remedy contains the following key features:

- a requirement that, if the operator enters into or renews a contract for central infrastructure services, it must have undertaken a competitive procurement exercise using a transparent and objective process to select the provider
- the competitive procurement should include the main elements outlined in paragraph 3.73
- the requirement will apply to the next contract – the first possible termination date for Bacs and LINK contracts, and the end date of the FPS contract – and then at least every ten years
- for the operators of Bacs and FPS, a provision that the operators must have regard to the work of the Forum in running the competitive procurement
- for the operators of Bacs and FPS, a provision that the operators may fulfil their obligations under the direction jointly, where appropriate
- for the operators of Bacs and FPS, a provision that the operators may apply to us for an amended date by which to comply with our procurement remedy due to transitional arrangements as part of the Forum's work, as described in paragraphs 3.114 to 3.141
- a provision for all the operators that, under exceptional circumstances, they may apply to us for an exemption as described in paragraphs 3.142 to 3.145
- a requirement that the operators report to us, as described in paragraphs 3.146 to 3.154. We expect to require reporting to start in September 2017 and then, in the first instance, every six months until the contract is signed, with the ability for us to adjust this timing in the future. We would expect to meet informally with operators in July 2017. For future contracts, the reporting will begin four years before the contract termination date

3.161 The specific directions for this remedy are included at Annex 3. These have been amended to take account of stakeholder comments on the issues described in this document, as well as some minor drafting changes.

Assessment of costs

- 3.162** We assess the cost of our proposed competitive procurement remedy against a counterfactual where the operators do not undertake a full competitive procurement. We consider the situation where the operators renegotiate their contracts with VocaLink as the relevant counterfactual, given that this is what they have done in the past.⁴¹ Another plausible but less likely counterfactual is a lower-quality competitive procurement that would involve lower costs but also much lower benefits. We do not consider such a counterfactual here.
- 3.163** The main cost associated with our remedy is the cost of undertaking a competitive procurement exercise – as outlined in our remedy option 3 – relative to the counterfactual. In addition, we also consider the potential costs associated with switching provider if a new provider is selected. This is because, in the counterfactual, VocaLink would remain the provider. We consider each of these in turn.

Cost of running a competitive procurement

- 3.164** LSL estimated prior to our remedies consultation that a competitive procurement would cost around £1 million, based on a five-year contract with a total value of £[<] million, and take at least 12 to 18 months. Following further work done by LSL, it more recently estimated the cost of running a competitive procurement to be between £1.5 million and £2.5 million. The upward revision reflects a higher estimate of legal costs and greater complexity of the LINK contract given the introduction of the network access remedy as part of the Mastercard/VocaLink merger. One PSP that responded to our consultation said the initial estimate for LINK was low compared to the other two systems.
- 3.165** FPSL estimated at a high level that running a competitive procurement could cost around £[<] million, based on a five- to ten-year contract with a total value of £[<] million to £[<] million. It estimated that the process could take [<] years – this includes time following the contract signing for the next provider to build, plan for and enable migration and implement its system (see paragraph 3.90).
- 3.166** BPSL said, as a general rule, that the cost of running a competitive procurement is around 1–2% of the contract value. It expects if a new system is procured, the contract could be around ten years with a potential total value of £[<] million to £[<] million, while a like-for-like procurement could be much lower.
- 3.167** Based on the information given by BPSL, we take the cost estimate for a Bacs procurement to be broadly similar to the estimate given for FPS. The difference in the cost estimates of FPSL and LSL is partly due to differences in estimated contract values, and additional actions that FPSL proposes to undertake (see paragraph 3.168 d).

⁴¹ PSR MR15/2.3, paragraphs 4.27 to 4.31.

- 3.168** In our view, these estimates overstate the true incremental cost of our competitive procurement remedy as outlined in our remedy option 3 above. We therefore consider they represent the upper bound of the incremental cost. This is for several reasons:
- a) Broadly similar costs associated with the contract negotiation stage could be incurred in the counterfactual and therefore should not be included as an incremental cost. BPSL did not expect the contract negotiations to be more complex than past contract renegotiations if the requirements change somewhat, such as introducing ISO 20022. It said the contract negotiations would likely be more complex if multiple providers are involved – for example, if the core services are unbundled and provided by different organisations. We note that LSL's upward revision to its cost estimate reflects higher legal costs that would also be incurred in the counterfactual contract renegotiation (see paragraph 3.164).
 - b) Operators would incur costs associated with consulting service-users in the counterfactual. The operators are subject to our General Direction 4⁴², which requires them to take service-users' interests into account in their decision-making. This includes decisions about procurement of central infrastructure services. In our view, requiring the operators to do this as part of defining the system requirements to be procured should not generate additional costs. Also, BPSL and FPSL said they would include such a step in their procurement process.
 - c) Operators would incur some costs in the counterfactual associated with work to define the requirements. We would expect operators to review and define their requirements before contracting services regardless of the procurement approach. This would ensure that what they are procuring is appropriate and meets service-users' needs. One alternative provider said that the Forum would complete some of the work to define the service requirements, which should also reduce the burden on the operators. We note that, as part of preparing for a competitive procurement, the operators will need to consider how overlay or cross-scheme services currently provided by Vocalink – such as the Bank Reference Database Services, Current Account Switch Service and government services – would be provided. This is likely to take some effort, which they might not need to do in the counterfactual – a renegotiation with VocaLink.
 - d) For FPS, the estimate includes costs associated with work that goes beyond what our proposed remedy would require. They should therefore not be included. These include changing the FPS central infrastructure to separate out the connectivity layer, and the cost to enhance its in-house technical knowledge [3<].
- 3.169** Some costs incurred in previous contract renegotiations would be avoided by running a competitive procurement exercise. For example, FPSL said it would not require a cost-base or profit margin benchmarking analysis as it did in its previous contract renegotiation – FPSL had used a consultancy firm to do this work. However, this cost saving is relatively small.
- 3.170** Based on the considerations outlined in paragraphs 3.164 to 3.169, we estimate the upper bound for the cost of running a competitive procurement for LINK to be £2.5 million. We estimate the lower bound to be around £1.5 million.
- 3.171** Based on the information provided to us by BPSL and FPSL, we estimated in our remedies consultation the upper bound for the cost of running a Bacs and FPS procurement to be £10 million each.

42 PSR General Directions, available at www.psr.org.uk/psr-general-directions

- 3.172** We estimated the lower bound for the cost of running a Bacs and FPS procurement to be £6 million each. This is based on FPSL's high-level estimated cost of running the 2005 FPS 'build and run' procurement of around £5 million to £6 million, which incorporated similar elements as our remedy option 3. We expect the operators would need to do more work, at an additional cost, than in the 2005 FPS procurement to review and define the service requirements for existing systems. This is because FPSL told us that the 2005 procurement was a greenfield development, and high-level requirements were used for the procurement process at that time.
- 3.173** In response to our remedies consultation, four stakeholders said these estimate bounds were appropriate. Two alternative providers said these estimates for the cost of running a Bacs and FPS procurement were high. One of these said in its experience it has cost organisations less than £1 million to run a competitive tender.
- 3.174** One PSP said that, as part of preparing for a competitive procurement process, PSPs would examine the potential impact of changing provider – and this work should be included in the cost of running a competitive procurement. We recognise that PSPs would incur some costs in doing this work. However, this would be preliminary work; PSPs have told us they could not do a full investigation until they knew the specific scenario of a migration (see paragraph 3.36). We do not consider that this preliminary work would increase the cost of running a competitive procurement above the upper estimates for Bacs and FPS. For LINK, we note that similar work has already been done as part of developing the undertakings to address the CMA's concerns about the sale of VocaLink (see paragraph 3.16).
- 3.175** The cost to potential providers of participating in the competitive procurement exercise is not a relevant cost as it is not a burden imposed by this remedy. Participation costs will be factored into the contract value by the winning provider. One alternative provider told us that this was a cost of doing business. The cost of the services being procured is also not relevant for the same reason.
- 3.176** Overall, given the evidence outlined in paragraphs 3.164 to 3.175, we estimate the incremental cost of running a competitive procurement as outlined in our remedy option 3 to be:
- between £6 million and £10 million each for Bacs and FPS
 - between £1.5 million and £2.5 million for LINK
- 3.177** These upper estimates for each system would overstate the cost of our remedy, given the factors outlined in paragraph 3.168, such as costs that would be incurred in the counterfactual of a contract renegotiation.
- 3.178** Furthermore, FPSL and LSL told us they will run a competitive procurement for the next contract renewal, regardless of our remedy. Their proposed competitive procurement processes include similar elements to our proposed remedy and in some instances additional elements (see paragraphs 3.168 and 3.169). This suggests that the incremental cost of this remedy could be significantly lower if we take their estimates as the counterfactual.
- 3.179** Operators will incur some additional costs associated with preparing reports for us, in line with our proposed reporting requirement (see paragraphs 3.146 to 3.154). We do not consider this would be significant.

Cost of switching provider

3.180 As outlined in paragraphs 3.36 to 3.45, we recognise there would be some switching costs incurred to change provider and that switching would create risks. However, these are largely unknown until the migration scenario is identified. These switching costs and risks would not arise in the counterfactual. However, our remedy does not necessitate that an operator change provider following a competitive procurement. Ultimately, a competitive procurement exercise should identify whether it is worthwhile for an operator to switch provider. An operator would only decide to switch if it considered that the alternative provider offered value for money that would justify the costs and potential risks of switching. We consider that, as the nature of the central infrastructure services is evolving because of changing user needs and technological options, it is likely that a new provider would offer the value for money needed to justify switching.

Summary of assessment of costs

3.181 Based on paragraph 3.176, we estimate that the incremental cost of our remedy is between £6 million and £10 million each for Bacs and FPS, and between £1.5 million and £2.5 million for LINK. In the event that a new provider is selected, there may also be an additional cost of migrating users to the new provider. However, we expect this would occur if changing provider represented value for money (see paragraph 3.180). We consider the proportionality of our remedies package, incorporating the costs of this remedy, in Chapter 6.

4 Messaging standards remedy

The bespoke messaging standards used by Bacs and FPS represent a barrier to entry for alternative providers of central infrastructure services. To remedy this and facilitate new entry and more competition, we require that ISO 20022 is introduced for the Bacs and FPS systems.

Our remedy will require that, in the next procurement of central infrastructure services, these services are capable of receiving and sending in ISO 20022. We also require the operators of Bacs and FPS to continue to make mapping documentation available to convert from existing bespoke standards to ISO 20022 and vice versa.

We consider that this is the least costly effective remedy to address the barrier to entry we have identified.

We conclude that a messaging standards remedy is not appropriate for LINK.

Introduction

- 4.1** In our final report we found that the bespoke messaging standards used by Bacs and FPS represent a barrier to entry. These standards make it more difficult for alternative providers to effectively compete to provide central infrastructure services.
- 4.2** Alternative infrastructure providers' systems are not built around Bacs and FPS bespoke messaging standards (the existing standards). As a consequence, they would need to develop completely new systems to effectively compete for the Bacs and FPS contracts based on their existing standards. This development cost acts as a barrier to entry for alternative providers.
- 4.3** As a potential remedy we proposed in our final report that international messaging standards are used for the Bacs and FPS systems.
- 4.4** FPSL also proposed an additional interoperability remedy to unbundle connectivity and central infrastructure provision, both currently provided by VocaLink. The idea is to introduce an independently supplied connectivity layer, supported by multiple competing telecoms providers. This would allow PSPs or technical aggregators to competitively select one or more telecoms suppliers and easily connect into payments infrastructures.
- 4.5** FPSL's proposed remedy may help to reduce the cost of switching between central infrastructure providers for PSPs and corporates. However, we consider it would not directly address the barrier to entry we have identified – that the existing standards make it more difficult for alternative providers to effectively compete for the provision of central infrastructure services. We therefore decided not to take this forward as a remedy option, but our remedy does not impede it.
- 4.6** In our final report we also outlined that the LINK messaging standard makes it more difficult for alternative providers to effectively compete for the provision of LINK central infrastructure services. However, for LINK we were unsure whether a similar remedy to that referred to in paragraph 4.3 was appropriate given the different set of competitive constraints characterising this payment system. Having considered this issue further, we decided that a messaging standards remedy is not appropriate for LINK. Details on this are provided in paragraphs 4.106 to 4.115.

4.7 In the remainder of this chapter we:

- consider the international messaging standard of choice for Bacs and FPS
- consider the effectiveness of the different remedy options to introduce ISO 20022 for Bacs and FPS
- assess the costs of the remedy options for Bacs and FPS
- consider further certain elements of our remedy design
- provide a summary of our remedy decision
- set out our reasons for not implementing a remedy for LINK

The international messaging standard of choice

4.8 In our final report we did not specify a particular international messaging standard. Following further consideration, we proposed in our remedies consultation to define ISO 20022 as the appropriate international messaging standard at this time. This is because:

- all alternative providers we spoke to already provide central infrastructure services in other countries based on ISO 20022
- there is a global trend towards ISO 20022 – while it has not become the universal standard for financial messaging, adoption of the standard is increasing around the world. Adoption of ISO 20022 for payment services has already taken place or is taking place in the SEPA countries, the USA, Australia, Brazil, Singapore and Japan, with Canada, South Africa, Switzerland and China having announced plans for adoption in coming years
- ISO 20022 provides a number of advantages:
 - improved global interoperability
 - potential to carry richer remittance data
 - financial messages that can be used in a number of different business areas
 - potential to deliver lower operating costs compared to existing standards
- almost all stakeholders we spoke to were of the view that if the UK payments industry decided to move to a new standard, ISO 20022 would be the most obvious candidate given its global use
- ISO 20022 is a free and open standard which means that it can be used by anyone in the industry
- the Forum's new payments architecture (NPA) is proposing end-to-end interoperability using ISO 20022⁴³
- adoption of ISO 20022 would be in line with other investments in infrastructure that the UK has recently made or is making, and which are all based on ISO 20022, such as the:
 - new Image Clearing Service for cheques
 - Current Account Switch Service
 - Cash ISA Transfer Service
- as part of its technology refresh programme for the Real-Time Gross Settlement (RTGS) platform the Bank of England is adopting ISO 20022 as a standard for RTGS⁴⁴

⁴³ Payments Strategy Forum, *A payments strategy for the 21st century – final strategy* (November 2016): <http://consultation.paymentsforum.uk/final-strategy>

⁴⁴ Bank of England *A blueprint for a new RTGS service for the United Kingdom* (May 2017), paragraph 36.

- 4.9** None of the stakeholders in response to our remedies consultation raised concerns about using ISO 20022 as the appropriate international messaging standard for Bacs and FPS at this time. We discuss time-limitations to our remedy in paragraphs 4.91 to 4.96.
- 4.10** We therefore conclude that ISO 20022 should be the international messaging standard applicable to our remedy for Bacs and FPS.

Assessment of effectiveness

- 4.11** Our remedy for the Bacs and FPS systems to introduce ISO 20022 aims to address the barrier to entry for the alternative infrastructure providers identified in our final report. It would make it easier for users (PSPs, corporates and government bodies) to switch to alternative payment service providers and for alternative infrastructure providers to compete for the Bacs and FPS contracts.
- 4.12** In our final report we proposed two high-level options to introduce a common international messaging standard for the Bacs and FPS systems: we mandate the adoption of the international standard (ISO 20022), or we mandate both the adoption and the transition approach (a phased transition).⁴⁵ However, on further consideration and given stakeholder responses to the final report, we found there were important elements to consider about the approach to introducing ISO 20022 and the adoption by system users. We therefore proposed in our remedies consultation to consider three remedy options focused on different approaches to introducing ISO 20022, rather than the two options set out in our final report. These are:
- use conversion services
 - upgrade internal systems
 - implement a staged upgrade of internal systems (a hybrid of the above two options)

Remedy options

- 4.13** Our remedy for the Bacs and FPS systems to introduce ISO 20022 aims to address the barrier to entry for the alternative infrastructure providers identified in our final report. It would make it easier for users to switch to alternative providers and for alternative infrastructure providers to compete for the Bacs and FPS contracts.
- 4.14** We now set out each of the remedy options. We also consider the need for a mapping exercise and whether to prescribe the message syntax to make these remedies effective. We then assess the effectiveness of these remedy options.

Use of conversion services

- 4.15** Under this approach users can continue to generate their payment messages using existing standards. These are then converted into ISO 20022 messages before being processed by the central infrastructure provider.
- 4.16** Conversion is the process of adapting the outputs of one system or application to meet the input requirements of another, to enable the receiving system or application to process the information effectively. It uses a set of mapping rules (as described in paragraphs 4.31 to 4.32) to 'translate' payment messages from existing standards into ISO 20022 and vice versa.
- 4.17** The use of conversion services enables the coexistence of existing messaging standards and ISO 20022. This approach does not require either the users or the alternative central infrastructure providers to rebuild their internal systems.

⁴⁵ PSR MR15/2.3, paragraph 8.74.

4.18 Message conversion can be performed in different places:

- **By the user or their chosen agent:** Users generate payment messages using existing messaging standards, or their own internal standards if they prefer. They then convert the messages into ISO 20022 messages, either in-house or using a chosen conversion service provider. The converted messages are then submitted to the central infrastructure. PSPs, aggregators and gateway services providers can offer, and some already do offer, such conversion services for users of Bacs and FPS.
- **By the central infrastructure:** In this case the users can not only generate but also send payment messages into the central infrastructure using the existing standards. The central infrastructure converts the messages into ISO 20022 before processing them.
- **Centrally, in the space between the user and the central infrastructure:** Users generate and send payment messages using existing standards. A selected single industry utility entity, but not the central infrastructure, converts the messages and forwards them to the central infrastructure.

4.19 These different solutions can also co-exist. Some users may prefer to use their own conversion services while others may prefer to outsource the conversion.

4.20 When converting between a constrained standard – such as the existing standards – and a more data rich standard such as ISO 20022, the amount of information that can be transmitted end-to-end is limited by the data capability of the constrained standard. Any additional information included in the data rich message would be truncated or omitted when converted into the constrained message. This happens whether conversion takes place at user or central infrastructure level, or in between.⁴⁶

4.21 Only when a sufficiently large mass of users upgrade their internal systems do the full benefits of ISO 20022 as outlined in paragraphs 4.8 to 4.10, emerge. Therefore, with conversion, many of the efficiency and competitive benefits that may be available from ISO 20022 do not occur, due to ongoing constraints on the amount of information that can be included within the messages.

Upgrade of internal systems

4.22 Under this approach, users upgrade their internal systems (this may include any or all of: hardware, software, back-office systems and employee know-how) to generate, send, receive and process ISO 20022 payment messages and the increased information these can contain (the full intended messages) (see paragraph 4.23). We also refer to this as an end-to-end implementation or full adoption of ISO 20022.

4.23 By upgrading their internal systems, users can be capable of sending, receiving and acting on all additional information that can be included in an ISO 20022 message. Such additional information could help users to become more efficient and competitive. It could also enhance innovation at infrastructure level – enabling central infrastructure providers to put forward more competitive and innovative proposals when trying to win contracts for Bacs and/or FPS.

⁴⁶ Unless additional measures are put in place so that additional payment data is captured during the conversion process, stored somewhere and subsequently made available to the intended recipient. These measures may be costly.

4.24 However, the attractiveness of upgrading internal back-office systems, as opposed to using conversion services, varies across different types of stakeholders.

- **For large PSPs and corporates:** With large transaction volumes and international operations, upgrading internal systems provides an opportunity to:
 - a) rationalise payment infrastructures
 - b) reduce operating costs
 - c) develop new services and solutions
 - d) become more competitive
- **For smaller PSPs and corporates:** With limited transaction volumes of direct debits and credit transfers, upgrading internal systems may be more burdensome. This is because these stakeholders may not exhibit sufficient economies of scale and scope to justify the related one-off fixed costs. Their interest to develop new payment-related services and solutions and to become more competitive may be more limited in scope.

Staged upgrade of internal systems

4.25 This approach is a combination of the previous approaches – using conversion services on a temporary basis and then users updating internal systems at a later stage.

4.26 The business case for updating internal systems is dependent in part on the extent to which sunk investment costs in existing systems would need to be written off. For some users, previous investments may not be fully depreciated and amortised. In this case, users may use conversion services as a temporary solution to delay internal updates until their existing systems reach the end of their financial lifecycle.

4.27 Use of conversion services will also allow users to replace/upgrade their internal systems when it is convenient – depending on their requirement for internal systems upgrades. They would probably do this at different times.

4.28 However, without any requirement to upgrade their internal systems by a certain date, some users would choose to rely on conversion services as a long-term or permanent solution. This is because:

- Users – especially those that do not have international operations⁴⁷ – are generally reluctant to bear the cost of upgrading their internal systems.
- Many of the potential benefits offered by ISO 20022, such as those related to the ability to include more information with payments, arise only when a sufficiently large mass of users adopt the standard (see paragraphs 4.21). This means early adopters may not have the full benefits of adoption. Few users might have an incentive to migrate early.

4.29 We note that previous cases of implementation of ISO 20022 in other countries have shown that banks and corporates generally do not upgrade their internal systems to make them ISO 20022 compliant unless it is compulsory. Without a mandatory requirement, they keep using legacy standards and convert between these and the new standard.⁴⁸

⁴⁷ Users with international operations may already be familiar with using ISO 20022 for non-UK domestic or cross-border payments, and may have some internal systems and operations already enabled for such payments.

⁴⁸ Europe Economics *Cost and benefits of migration to ISO 20022 in SEPA* (November 2016), page 80: www.psr.org.uk/sites/default/files/media/PDF/ISO-20022-in-SEPA-FINAL-report.pdf

4.30 Once users have upgraded their internal systems, they can be capable of sending, receiving and acting on all additional information that can be included in an ISO 20022 message. This could generate the additional benefits illustrated in paragraph 4.23. However, for the reasons explained in paragraph 4.28, we consider that unless all users are required to upgrade their internal systems, many of the additional benefits of ISO 20022 would not arise.

Mapping exercise

4.31 A mapping exercise is the definition of rules explaining how to extract content from payment messages written in the existing standards and move this to the correct corresponding elements in ISO 20022 messages. A mapping exercise is also aimed at verifying that current ISO 20022 messages can replicate all functionality offered by existing standards. Where they cannot, the development of new ISO 20022 messages may be required.

4.32 The definition of mapping rules between existing standards and ISO 20022 are required to allow for conversion between standards.

4.33 We proposed in our remedies consultation that a mapping exercise was necessary to make a remedy involving conversion effective – the operators of Bacs and FPS would each need to complete the mapping and publish the mapping rules publicly. A mapping exercise is not necessary for requiring end-to-end implementation of ISO 20022 (i.e. an approach not using any conversion facilities). However, we note the mapping rules would be helpful for users to see how data is populated between standards when they are upgrading their internal systems.

4.34 In response to our remedies consultation an industry body said it was concerned that the mapping may not be able to be produced to the high quality required by our proposed deadline of July 2017. However, FPSL said it has already made this information publicly available. It asked, therefore, that any remedy did not require it to submit a formal report, nor set a deadline for it to be compliant. BPSL had published a translation guide⁴⁹ in January 2017 and told us that it will produce and publish the remaining mapping documentation in Autumn 2017.

4.35 Almost all respondents to our remedies consultation that commented on this issue, including both the operators that this remedy would apply to, saw no reason why the mapping information should not be disclosed publicly. One respondent said that it should be made available only to registered users, in order to protect the payments network.

4.36 Two respondents to our remedies consultation thought there should be greater coordination between FPS and Bacs on mapping messaging standards, as this would bring benefits such as facilitating greater interoperability between payment systems.

4.37 As noted above in paragraph 4.34, BPSL has not yet produced all the necessary mapping documentation. To ensure it does, we consider it important to mandate that the operator do this by 1 December 2017. This date aligns with the timing around when the operator of Bacs would begin the formal part of its tender process, for which the mapping documentation would be needed to enable potential providers to consider their bids (see paragraph 3.91). For FPS, as noted above in paragraph 4.34, the documentation setting out the mapping rules for conversion between legacy Bacs and FPS standards and ISO 20022 has now been prepared. It is therefore not necessary for us to mandate the preparation of this documentation by a specified deadline for the operator of FPS. However, we still consider it is appropriate to impose a requirement ensuring that the operators are required to continue to make the relevant mapping documentation publicly available for the duration that the requirement is in place. We also consider this is important given our objective to be transparent about our requirements.

⁴⁹ Bacs Payment Scheme Limited ISO 20022/Bacs: Translation guide (4 January 2017): www.bacs.co.uk/documentlibrary/iso20022bacstranslationguide.pdf

- 4.38** A requirement that the mapping documentation is made publicly available will enable the use of conversion services, so that alternative providers can better compete for the next Bacs and FPS contracts. Almost all respondents, including BPSL and FPSL, agreed that this information should be made publicly available.
- 4.39** We recognise that there may be some wider benefit to coordination between payment systems on mapping messaging standards – for example, it could help reduce complexity and facilitate interoperability. However, this coordination is not necessary for the effective implementation of our remedy, which focuses on the competition issues identified in our final report. We also note that the consolidated new payment system operator (NPSO) is likely to consider this issue.
- 4.40** We therefore conclude that for a remedy involving the use of conversion services to be effective, we should require the operators to complete a mapping exercise. We also require that, for the duration of the remedy, the operators of Bacs and FPS continue to make this documentation publicly available.

Messaging standard syntax

- 4.41** We considered in our remedies consultation whether, to be effective, it is also necessary that we prescribe the ISO 20022 messaging standard syntax that should be used. The syntax is the physical representation of the message. The most widely used syntax for ISO 20022 is the eXtensible Mark-up Language (XML). We see some merit in adopting the XML syntax. The XML syntax is an international open standard. As such, it is characterised by extensive support from vendors and off-the-shelf tools. XML is machine-readable, so implementation of new messages, or changes to existing messages, requires less manual effort. XML also enables easy manipulation of messages by most modern software, including mapping the information to other formats and standards.
- 4.42** All twelve respondents to our remedies consultation that commented on this issue recognised that XML was currently the default syntax for interbank payment messages. However, only five of these twelve, including three of five alternative infrastructure providers, supported requiring the use of XML in a remedy. The seven that opposed requiring XML said that specification of the syntax was unnecessary to make the remedy effective. Two of these were concerned that being too specific could restrict innovation and that, while XML may often be most appropriate, in some circumstances it may not be. Another two said that different syntaxes, for example JSON, may be appropriate for different layers of the system. Those in favour of specifying XML said that it was the most appropriate syntax for interbank payments. One of these said that without specifying XML a very large cost could be imposed on industry in operating different syntaxes, while another said that it was not difficult to convert between XML and JSON within ISO 20022.
- 4.43** We consider that the adoption of different syntaxes would not represent a barrier to entry for alternative infrastructure providers. This is because ISO 20022 messages can be expressed in different syntaxes that are all interoperable between themselves. We note the mixed responses on whether we should specify the syntax. We acknowledge that prescribing the syntax may have the effect of restricting innovation. Taking all this into account, we therefore conclude that requiring the use of XML (or any other syntax) is not necessary to make our remedy effective.

Decision on the effectiveness of remedy options

Stakeholder views

- 4.44** Almost all respondents to our remedies consultation that commented were supportive of a remedy to introduce ISO 20022.
- 4.45** Two stakeholders did not agree. One of these believed that it was unnecessary to achieve our objectives. It said we should not mandate the introduction of ISO 20022, rather potential providers should be allowed to bid to provide central infrastructure services in either ISO 20022 or the legacy standard. Then the operator could consider all bids using a cost-benefit analysis. The other, BPSL, said that it supported the use of ISO 20022 in the Forum's proposed NPA, but procuring a replacement for its current system in ISO 20022 – which could be made redundant as migration to the NPA takes place – could be costly and complex.
- 4.46** We asked a number of potential alternative central infrastructure providers whether introducing ISO 20022 by allowing for the use of conversion services would eliminate the barrier to entry we had identified. We also asked them whether this option would be as effective as the option requiring users to upgrade their internal systems to be ISO 20022 compliant.
- 4.47** All alternative infrastructure providers we spoke to confirmed that the introduction of conversion services – translating between existing standards and ISO 20022 – would address the barrier to entry identified in our final report. They also confirmed that such an option would be as effective a remedy option as requiring users to upgrade their internal systems. An alternative infrastructure provider said that it welcomed the facilitation of the use of conversion services.
- 4.48** VocaLink said that conversion services offer a faster, more cost effective and, therefore, more proportionate way of delivering the vast majority of the competition benefits of adopting a common international standard.
- 4.49** Some stakeholders, including alternative infrastructure providers, explained that there are some drawbacks related to the adoption of conversion services. However, they explained that these are not particularly significant and would not undermine the effectiveness of this option. Several stakeholders added in their response to our remedies consultation that conversion services should only be a short term solution until end-to-end adoption of ISO 20022 was mandated. One of these said that a mandatory end date was needed to avoid UK banks remaining wedded to legacy standards.
- 4.50** In contrast, one large PSP said that we had not undertaken a detailed analysis of the potential technical effects or risks of using conversion services. These could include the impact on processing time, or any resilience risk associated with introducing additional processes and parties into the payments architecture. Another large PSP said that the technical aspects of conversion should be examined more closely.
- 4.51** Three stakeholders, including two alternative central infrastructure providers, noted that they would prefer an approach that provided the full benefits of richer data (through full end-to-end adoption of ISO 20022) rather than an approach focusing just on enabling competitive procurement. One of these said that aggregators and sponsor banks should be required to provide ISO 20022 capabilities to their customers so they can make use of new formats and richer data capabilities.

Our assessment

- 4.52** We do not believe that allowing bids in either legacy standards or ISO 20022 would be an effective remedy. Without a requirement for the central infrastructure services to be able to receive and send in ISO 20022 the incumbent provider could simply use its existing payment platforms – developed around the existing standards – when competing with alternative providers. The alternative infrastructure providers would have to comply with different standards at the same time, but this would not be the case for the incumbent. Therefore, the barrier to entry we identified in our final report would not be addressed. We therefore consider that to enable effective competition a messaging standards remedy must require ISO 20022 to be introduced. We discuss the implications of the proposed NPA on existing Bacs and FPS central infrastructure in Chapter 3 and implications for this remedy in paragraphs 4.97 below. We note that the procurement remedy allows for the operators to apply to amend the date for when they must comply in full with the procurement remedy (see paragraph 3.124).
- 4.53** We have not received evidence to suggest there would be any significant technical issues with the use of conversion services to facilitate ISO 20022. We note that conversion services are widely used in payment systems and are essential when transitioning from one standard to another if users are to avoid a ‘cliff edge’ change from one standard to another. We also note that in Japan’s ‘Zengin’ retail payments system, participants can use either the legacy standard or the current standard, with conversion in the centre. Finally, the operators of Bacs and FPS have not raised issues with regard to the technical feasibility of using conversion services.
- 4.54** We note that those stakeholders in paragraphs 4.49 and 4.51 have a preference for end-to-end adoption of ISO 20022 because it would generate higher benefits for users. Many of the potential benefits offered by ISO 20022 – beyond enhanced competition at central infrastructure level – are related to the additional information that this standard enables users to include in a payment message. However, the delivery of these additional benefits is not necessary to make any of our remedy options effective. This is because the objective of our remedy is to address the barrier to entry we have identified – that is, the use of bespoke messaging standards that makes it more difficult for alternative providers to effectively compete for central infrastructure services. We recognise that our remedy option to use conversion services would not in itself produce many of the potential additional benefits of ISO 20022. However, this remedy would not prevent a full end-to-end implementation of ISO 20022 at some point. Nor would it make this more costly or difficult.
- 4.55** As noted in paragraphs 4.32 to 4.40, a requirement for a mapping exercise is necessary for a remedy involving conversion services to be effective.
- 4.56** We outline in paragraphs 4.41 to 4.43, prescribing the use of XML (or any other syntax) is not necessary to make our remedy effective.
- 4.57** Based on the evidence in paragraphs 4.52 to 4.56, we conclude that all the remedy options would be effective at removing the barrier to entry we identified in our final report. For the remedy options involving conversion services, this is provided we also require the operators to complete a mapping exercise and make this documentation publicly available.

Assessment of costs

- 4.58** We aim to implement the least costly remedy that will be effective in addressing the problem we have identified. As we conclude that each remedy option is effective, we therefore assess the costs of each option to determine which will be the least costly. We also assess the cost of the requirement for a mapping exercise.

Conversion services

- 4.59** The cost of using conversion services for users is usually significantly lower than the cost of upgrading existing internal systems. Evidence from Europe Economics (EE) shows that in SEPA, the costs for those who used conversion services were less than 25% of full upgrade costs.⁵⁰
- 4.60** In our remedies consultation, we provisionally concluded that the industry only incurs these conversion costs when conversion takes place at user level. In the case where conversion takes place at central infrastructure level, the users would not incur these costs. This is because the availability of a central conversion facility, if procured by operators, could ensure that users do not need to upgrade their systems or implement conversion services, unless they prefer to do so. The cost of conversion would be incurred by the central infrastructure provider – it would be part of its competitive proposal. Such a remedy would require that the central infrastructure services are able to receive and send in ISO 20022 messaging standard.
- 4.61** Central infrastructure providers confirmed that they could perform conversions between existing standards and ISO 20022 and that this would not put them at a competitive disadvantage to VocaLink in the same position. It is our understanding that – considering the total transaction volume of Bacs and FPS – the average unit cost that they would incur to provide centralised conversion services would not be significant.
- 4.62** In response to our remedies consultation, three stakeholders raised concerns about our provisional estimate that the option to use central conversion services would not impose any material costs.
- 4.63** One stakeholder said that, while this remedy minimises the implementation costs for users by allowing them to choose whether to adopt ISO 20022, the ongoing cost to infrastructure providers of servicing multiple standards concurrently and indefinitely may be significant. It also said that we had failed to consider the governance costs associated with maintaining the standard for the selected interbank payment systems.
- 4.64** One large PSP said that even if conversion services are seen as a cost of doing business for infrastructure providers, this cost will still be passed on to consumers in a competitive market. It also said that there would be material costs associated with testing infrastructure based on ISO 20022, whether operated by VocaLink or another party.
- 4.65** Another large PSP said that while central conversion is, in itself, not a significant cost for the industry, the linkage of the remedies to the Forum's strategy and the expectation that procurement will not be like-for-like (in terms of overall system functionality and specifications) means users will incur considerable costs to implement the NPA.
- 4.66** We considered whether the cost of conversion services in the centre was a relevant cost of the remedy.
- 4.67** For FPS, we note that FPSL told us that it will introduce a more appropriate messaging standard in its next procurement, and currently ISO 20022 the most appropriate standard. We therefore decided that, for FPS, procurement in ISO 20022 is part of the counterfactual scenario and the cost of conversion services or any associated testing costs should not be considered an additional cost of our remedy.
- 4.68** For Bacs, BPSL has not indicated to us that, without a remedy, it would introduce ISO 20022 at its next procurement. We therefore consider these costs for Bacs in the following paragraphs 4.69 to 4.70.

⁵⁰ Europe Economics, page 29, footnote 42

- 4.69** A number of alternative infrastructure providers we spoke to said that conversion services were reasonably cheap and not a significant cost in the context of central infrastructure services. As noted in paragraph 4.61, alternative providers have told us that these conversion services are readily available and inexpensive. One of these said that they would require an investment of a few hundred thousand pounds. However, other evidence suggested the cost of implementing these services could be in the region of £1 million and £2 million. We recognise that it is not possible to be precise about this cost until the type of system that is being procured is clear and that this estimate is therefore quite uncertain. Nevertheless, we think it is likely that the cost of these services would amount to between £1 million and £2 million.
- 4.70** There would also be additional testing costs which relate to the introduction of ISO 20022 conversion services for Bacs. However, such costs, as with switching costs, are largely unknown until the specific scenario for introducing the conversion services is known (see paragraph 3.36). We discuss switching costs in Chapter 3.
- 4.71** An operator, an industry body and an alternative infrastructure provider all said that any central conversion services should only be paid for by those users that require them. The alternative infrastructure provider said that these should also be tendered for separately, as there are many specialist providers of conversion services.
- 4.72** The way the cost of central infrastructure services is apportioned between the direct members of a system has not formed a part of our review. We consider this is a matter for the relevant operator to consider.
- 4.73** Based on the evidence outlined in paragraphs 4.59 to 4.72, we conclude that the use of central conversion services imposes no relevant additional costs in a future FPS procurement. We conclude for Bacs that the fixed cost of conversion services is likely to be between £1 million and £2 million, while the associated testing costs are largely unknown before introducing the conversion services.
- 4.74** Compared with the cost of using conversion services at the user level (see paragraph 4.59), the cost of using conversion services at the central infrastructure level would impose a lower cost. Users would still be able to procure and use their own conversion services or upgrade their internal systems, if they prefer to do so.
- 4.75** We therefore conclude that the least costly way of implementing conversion services is to require that the central infrastructure services procured are able to send and receive in ISO 20022.

Upgrade of internal systems

- 4.76** Evidence from EE shows that the PSPs would bear the majority of costs for upgrading internal systems. Some corporates (especially large ones) and government bodies would also bear some of the costs.⁵¹ [5<].
- 4.77** The cost impact of upgrading is less significant for those stakeholders who have old internal systems nearing or at the end of their lifecycles. These stakeholders would soon need to spend money on upgrading their systems, even without having to transition to a new messaging standard.
- 4.78** We recognise that there are additional benefits beyond infrastructure competition that would arise from full end to end adoption of ISO 20022. However, any remedy requiring the upgrade of payment system users' internal systems – even if staged – would be more costly and onerous for many users in the short term than adopting conversion services. We note that none of the stakeholders disagreed with this view. We also note that the Forum is taking forward plans for the full end to end adoption of ISO 20022 within the NPA.

⁵¹ Europe Economics, page 51

Staged upgrade of internal systems

- 4.79** As mentioned in paragraph 4.26, conversion allows users to upgrade their internal systems when it is more convenient for them, helping them to mitigate their upgrading costs. Evidence from EE suggests that the average migration time (i.e. the time taken by PSPs and corporates to upgrade their internal systems) for SEPA was 30 months.⁵²
- 4.80** While this option allows users to upgrade their internal systems at a cost-effective time for them, this would still require all users to do so. Therefore, this option would be more costly and onerous than a remedy to use conversion services without mandating an end date for adoption.

Mapping exercise

- 4.81** As noted in paragraph 4.34, FPSL have already completed the required mapping exercise and published this, and BPSL expects to have done this by the end of Q3 2017. This is therefore part of the counterfactual scenario⁵³ and we do not consider that the cost of this, or any future servicing and governance costs associated with the maintenance of both legacy standards and ISO 20022, should be attributed to our remedy. We note that none of the stakeholders that commented on our remedies consultation raised concerns about our conclusion on the cost of a mapping exercise.
- 4.82** Even if requiring a mapping exercise were to impose some additional costs on BPSL or FPSL – for example because it may require them to take additional steps beyond those already done or planned – we still consider that this requirement would not produce disadvantages that are disproportionate to its aim. This is because any such additional steps would likely be very limited and the associated costs would therefore not be significant.
- 4.83** We therefore conclude that a requirement to complete mapping exercises would not impose any significant costs.

Summary of assessment on costs

- 4.84** Based on the evidence outlined in paragraphs 4.59 to 4.83, we conclude that the remedy that allows the use of conversion services at the central infrastructure level is the lowest cost and most proportionate remedy. To be effective, this remedy would require the operators to complete a mapping exercise and publish the documentation publicly.
- 4.85** This requirement does not impose an end-to-end implementation or full adoption of ISO 20022. This means that users are not required to upgrade their internal systems to become ISO 20022 compliant or to convert their payment messages from the existing standards into ISO 20022. Under this remedy users can choose to:
- continue sending messages in existing formats as these could be converted by the central infrastructure provider or by a third party
 - make use of their own conversion services (developing these in-house or procuring them from aggregators or gateway services providers)
 - upgrade their internal systems
- 4.86** We will therefore implement two directions to require the operators to:
- a) procure central infrastructure services that are able to receive and send in ISO 20022
 - b) complete a mapping exercise and publish this documentation publicly

⁵² Europe Economics, page 83

⁵³ The alternative scenario is that which would take place in the industry without our remedies.

- 4.87** We conclude that the associated cost of the requirement to procure central infrastructure that can receive and send in ISO 20022 is the following:
- For FPS, it imposes no relevant additional costs in a future FPS procurement.
 - For Bacs, the fixed cost of conversion services is likely to be between £1 million and £2 million, while the associated testing costs are largely unknown before introducing the conversion services.
- 4.88** We conclude that a requirement for mapping exercises would not impose any significant cost.
- 4.89** We consider the proportionality of our remedies package, incorporating the costs and benefits of this remedy, in Chapter 6.

Further remedy considerations

- 4.90** There are further considerations we must take into account in our remedy design. These are:
- the timing of our remedy
 - the interaction with the work of the Forum
 - the consistency of our remedy with relevant laws and regulations

Timing

- 4.91** In Chapter 3, we conclude that the messaging standards remedy needs to be implemented before the next procurements for central infrastructure services commence. This is to ensure our procurement remedy is effective (see paragraph 3.104).
- 4.92** We considered whether the requirement to procure central infrastructure capable of receiving and sending messages under ISO 20022, as well as – where required – existing messaging standards, should apply only to the next procurement, or whether the requirement should remain in place, subject to an exemption if it were no longer appropriate.
- 4.93** In response to our remedies consultation five respondents said that the requirement to procure in ISO 20022 should be in place only for the next round of procurements. They believed that following implementation there was little chance of a reversion to legacy standards, and that while ISO 20022 was appropriate today this may not necessarily be the case in the future. One operator said it had no objection to the remedy remaining in place after the next procurement.
- 4.94** Our view is that once a competitive procurement exercise in ISO 20022 has taken place, it is likely that this remedy will have removed the causes of the competition issue it is designed to resolve. Once an infrastructure provider supporting ISO 20022 is appointed, it is unlikely that an operator will subsequently decide to revert to current legacy standards given their deficiencies in terms of meeting user needs.
- 4.95** Furthermore, we agree that other messaging standards may be developed and/or become preferable in future. In future competitive procurement exercises the operators of Bacs and FPS may then have valid reasons to re-procure central infrastructure services using messaging standards other than ISO 20022.
- 4.96** For these reasons we decided that the remedy should be time-limited and that the stop date for the remedy should be once a competitive procurement exercise has taken place using ISO 20022.

Interaction with the Forum

4.97 We consider that the main implementation risk with our remedy relates to its interaction with the work of the Forum. The proposed implementation and transition to the NPA raises the same considerations for this remedy as for our procurement remedy discussed in Chapter 3. The requirement to procure in ISO 20022 is included in the same direction as our competitive procurement remedy. This direction includes the same provisions with regard to the Forum and potential circumstances when operators may apply to us to amend the date for when they must comply with our remedies. These are outlined in Chapter 3 in paragraphs 3.114 to 3.145.

Consistency with relevant laws and regulations

4.98 We considered whether this remedy is inconsistent with relevant laws and regulations, including the first Payment Services Directive (PSD), the second Payment Services Directive (PSD2), Payment Accounts Directive (PAD), AML legislation, and the ring-fencing requirement under FSBRA.

4.99 One large PSP said that we should review whether our proposals are consistent with Article 58 of PSD2. In particular to the extent that they assume that richer data transmitted on ISO 20022 messages can be truncated or withheld on translation into legacy messaging formats. Article 58 outlines the transaction information a payee is to be provided with by their PSP, which includes: 'a reference enabling the payee to identify the transaction and the payer, and any information transferred with the payment transaction.'

4.100 ISO 20022 messages sent with richer data may create issues for PSPs receiving in constrained legacy standards, such as Standard 18, which do not have the capacity to carry such richer data. In a new Bacs or FPS system, where both richer data and constrained messages may be being processed, the system design, mapping and rules will need to be consistent with relevant laws, such as PSD2. Data loss could be avoided, for example by only allowing constrained message content in the system – in effect ISO 20022 messages would be constrained and not be allowed to include richer data. Alternative approaches may also be available. Therefore, we consider that there are practical steps that the operators can take to implement this to ensure the use of legacy standards and ISO 20022 in a payment system is consistent with Article 58. It is the responsibility of the operators to ensure compliance.

4.101 We conclude that our remedy does not raise concerns of inconsistency with relevant laws and regulations.

Summary of remedy decision

4.102 For the reasons outlined in paragraphs 4.58 to 4.89 above, we conclude that the least-costly effective remedy to address the barrier to entry we have identified is as follows:

- A requirement that the operators of Bacs and FPS continue to make mapping documentation between existing standards and ISO 20022 publicly available (see paragraphs 4.32 to 4.40).
- A requirement that the operators of Bacs and FPS procure any future central infrastructure services that are able to receive and send in ISO 20022 – allowing, if appropriate, for central conversion of legacy standards (see paragraph 4.52). In addition:
 1. It includes the same provisions with regard to the Forum and potential circumstances when operators may apply to us for a later date to comply in full with our Competitive Procurement remedy (see paragraph 4.97).
 2. It is time-limited and applies to the next procurement only (see paragraphs 4.91 to 4.96).

- 4.103** We conclude that it is not necessary to prescribe the syntax of ISO 20022 to be used (see paragraphs 4.41 to 4.43).
- 4.104** We believe our remedy does not raise concerns of inconsistency with relevant laws and regulations (see paragraphs 4.98 to 4.101).
- 4.105** We will implement both parts of this remedy via specific directions, which are contained in Annex 3.

LINK

- 4.106** In our final report we found that LINK was based on a proprietary messaging standard LIS 5, which was owned by VocaLink.
- 4.107** The fact that LINK is based on a proprietary messaging standard makes it more difficult for alternative providers to compete to provide ATM switching services. Building internal systems entirely based on LIS 5 may put alternative ATM switching providers at a competitive disadvantage relative to VocaLink. And it would be costly for LINK members to update their internal systems to use another standard.
- 4.108** However, because the vast majority of LINK members already have an established connection with VISA and Mastercard core infrastructures, the extent to which LINK messaging standards represent a barrier to entry impeding competition may not be the same as for Bacs and FPS.⁵⁴
- 4.109** Furthermore, conversion services similar to those described in paragraph 4.16 already exist between LIS 5 and other implementations of ISO 8583 usually used in card systems. For example, Certified Bureau Services providers already offer their clients conversion services between the messaging standards used in LINK, Visa and Mastercard.⁵⁵
- 4.110** Some providers of services in this space (for example, [§<] and Mastercard) also already have solutions enabling them to use the LIS 5 messaging standard. This is in case they were to provide switching services for LINK. Similarly, other infrastructure suppliers operating in the ATM space (for example, [§<]) develop and offer services based on LIS 5 for their PSP clients. This provider explained that while it currently does not provide switching services, it could provide these for LINK even if it had to use the LIS 5 standards.
- 4.111** We note that the remedies package offered to the CMA by Mastercard/VocaLink to address the competition issues the CMA identified in its merger investigation included the transfer of the ownership of LIS5 from VocaLink to LSL.⁵⁶ This removes the cost of licensing the LIS5 standard we identified in our final report.
- 4.112** Because LIS5 conversion services already exist, and LSL now has ownership of LIS5, we consider it unlikely that a new infrastructure provider would incur material costs to offer LIS5-based services.
- 4.113** We also note that no alternative provider of central infrastructure services told us that adopting a different messaging standard for LINK would help competition, in contrast to Bacs and FPS. We consider this is because there is no common ISO 8583 implementation that would set a level playing field for different central infrastructure providers.
- 4.114** Finally, all respondents to our remedies consultation that commented on this issue said that a messaging standards remedy was not required for LINK.
- 4.115** For these reasons, we conclude that a messaging standards remedy for LINK is not appropriate.

⁵⁴ PSR MR15/2.3, paragraph 4.290.

⁵⁵ Software providers that route a PSP's ATM transactions to the appropriate payment system (e.g. LINK, MasterCard or Visa)

⁵⁶ CMA Final Undertakings: Undertakings given by Mastercard to the Competition and Markets Authority pursuant to section 73 of the Enterprise Act 2002 (11 April 2017): <https://assets.publishing.service.gov.uk/media/58eb4b70e5274a06b300012e/mastercardvocalink-uils-final-undertakings.pdf>

5 Ownership of VocaLink

To address the competition problems we identified in our final report, we set out a potential remedy that the four largest VocaLink shareholders should divest of their interest in VocaLink. However, given the acquisition of VocaLink by Mastercard, we have limited our assessment to whether or not this transaction addresses the ownership issues identified in our final report.

We assess that requiring the four largest VocaLink shareholders to reduce their shareholding to a relatively small collective shareholding of around 10% is an effective remedy. We consider that additional governance measures would not be required for this remedy to be effective.

We conclude that the Mastercard acquisition of VocaLink would be effective in addressing the competition problems we identified in our final report. This is because, under the acquisition terms, one of the four largest shareholders [3<] has sold its entire shareholding and the remaining three have a combined stake of around 6% – which is below the 10% we think is effective as a remedy. There are also features of the transaction agreement that would significantly reduce any remaining financial incentive that the three largest remaining shareholders of VocaLink would have had to protect it from competition.

Introduction

- 5.1** In our final report, we found that the four largest VocaLink shareholders, when acting collectively, have the ability to take or block key decisions of VocaLink and each of the three operators (Bacs, FPS and LINK). We found that these shareholders' interests are aligned in matters concerning stability, security and resilience and in matters that are related to exposing VocaLink to competition.
- 5.2** We concluded that as a result of the joint control that the four largest shareholders have, the current ownership and governance arrangements are likely to reduce the level of competition in the market for the provision of central infrastructure services. This is because:
- the four largest VocaLink shareholders have an interest in protecting VocaLink from competition
 - the four largest VocaLink shareholders are unwilling to turn to infrastructure suppliers other than VocaLink as they perceive there is a benefit in using a supplier they control
 - current ownership and governance arrangements discourage alternative providers of central infrastructure services from entering the UK market
- 5.3** To address this, we set out a potential remedy of divestment by the four largest VocaLink shareholders of their interest in VocaLink. We explained that we were considering three options:
- a) **Full divestment:** We would require the four largest PSPs to fully divest their shareholding in VocaLink.
 - b) **Partial divestment:** We would require the four largest PSPs to partially divest their shareholding in VocaLink so that their combined holding fell below a specified level.
 - c) **Partial divestment plus governance changes:** In addition to partial divestment, we would also require the four largest PSPs not to seek or accept board representation at VocaLink.

- 5.4** We also set out our intention to consider one alternative remedy that was suggested to us by an operator. This was:
- d) **Changes to operator corporate governance:** We would require independence between operators and the four largest shareholders of VocaLink.
- 5.5** On 21 July 2016 Mastercard announced that it had entered into a definitive agreement to acquire 92.4% of VocaLink, subject to regulatory approval and customary closing conditions.⁵⁷ Under this agreement some VocaLink shareholders will retain an ownership of 7.6% for at least three years. The four largest PSPs will collectively retain an ownership stake of around 6% with one of these PSPs [§<] selling its stake entirely. None of the remaining individual PSPs will have a stake greater than 3%.
- 5.6** This transaction was subject to merger approval by the CMA. On 11 April 2017, the CMA accepted undertakings from Mastercard and the transaction completed on the 28 April 2017. The CMA concluded that these undertakings were sufficient to address its competition concerns.⁵⁸ The CMA had previously (on 4 January 2017) announced that the merger may be expected to result in a substantial lessening of competition and would be referred for a detailed phase 2 investigation unless Mastercard was able offer acceptable undertakings to address the competition concerns it had identified.⁵⁹ These concerns related to the provision of central infrastructure in a future LINK tender (see paragraph 3.16).
- 5.7** In this chapter we assess whether the Mastercard transaction will address the concerns set out in paragraph 5.2.
- 5.8** Our assessment has two stages: in paragraphs 5.12 to 5.35 we assess whether a divestment remedy would be effective in addressing our findings set out in paragraph 5.2 and the criteria a divestment would have to fulfil to be effective. In paragraphs 5.36 to 5.46 we then assess the Mastercard transactions against these criteria. As the transaction has already occurred and is not being required by our remedy, we do not consider that there are any relevant costs we need to take into account in considering the cost of divestment.
- 5.9** If the transaction did not happen, we set out in our remedies consultation that we would expect to consult on our assessment of a detailed proposed divestment remedy, as well any alternative remedy as described in paragraph 5.3.
- 5.10** As we conclude that Mastercard's acquisition of VocaLink is effective in removing the ownership-related barriers to competition we identified in our final report, we are not now considering the alternative proposed remedy.
- 5.11** We note that, in response to our remedies consultation, five respondents, including three of the four largest PSPs, raised concerns with regard to the ownership findings in our final report. As these points relate to our findings as set out in our final report of 21 July 2016 we do not consider these points further here.

⁵⁷ <http://newsroom.mastercard.com/press-releases/mastercard-announces-acquisition-of-vocalink/>

⁵⁸ www.gov.uk/government/news/cma-accepts-mastercardvocalink-undertakings

⁵⁹ www.gov.uk/cma-cases/mastercard-vocalink-merger-inquiry

The effectiveness of the proposed divestment remedy options

- 5.12** In this section we consider whether a remedy requiring the largest four shareholders of VocaLink to divest some or all of their shares in VocaLink would be effective in addressing the findings set out in paragraph 5.2. We then consider what criteria a divestment would have to satisfy to be effective in addressing our findings.
- 5.13** Given the Mastercard transaction, our analysis assumes a sale to a single purchaser. We note that in a scenario where there were multiple purchasers and the shareholder base was dispersed – for example, in an initial public offering (IPO) – this analysis might change.
- 5.14** We will first consider what would be an acceptable level of shares held by the four largest shareholders. We then consider whether there would be a need for governance changes.

Acceptable level of shareholding

- 5.15** We consider now what level of shareholding would address the findings we summarised in paragraph 5.2.
- 5.16** We found in our final report that the **four largest shareholders are unwilling to turn to alternative infrastructure suppliers**.⁶⁰ They perceive that there is a benefit in using a supplier that they control as a means of ensuring stable, secure and resilient services.
- 5.17** We found in our final report that the four largest shareholders have the ability to take or block any VocaLink shareholder decision because they jointly control 77.6% of the votes at general meetings. These decisions require 50% or 75% of votes in favour to pass.⁶¹
- 5.18** To eliminate the ability of the four largest shareholders to take or block these decisions at VocaLink general meetings, their collective shareholding would need to be reduced from 77.6% to a level where they collectively held less than 25% of the shares of the company. At this level of shareholding they would be unable to take or block shareholder decisions, including those that require 75% of votes to pass, which would remove this as a perceived benefit of VocaLink over potential competitors.
- 5.19** Our final report found that the four largest shareholders have an **incentive to protect VocaLink from competition**. This incentive is both financial and non-financial.⁶² Given this, we considered whether this finding would be remedied by requiring the four largest shareholders to divest their interest in VocaLink to a collective shareholding of less than 25% or whether a more significant collective divestment would be necessary. We were concerned that a collective shareholding of around 25% (as compared to the current 77.6%) might still provide an incentive to protect VocaLink. However, we note that most stakeholders, including most alternative providers, did not consider that a full divestment was necessary to make the remedy effective.
- 5.20** On this basis we consider that the total shareholding that would address this concern would be below 25% but greater than zero. We proposed in our remedies consultation that a relatively small shareholding of about 10% would be effective at substantially removing this incentive. Almost all respondents to our remedies consultation that commented on the ownership of VocaLink agreed that divestment by the four largest PSPs to less than a 10% stake would address the issues we had identified. One of the four largest PSPs said that the maximum permitted shareholding should be significantly in excess of 10% (see paragraphs 5.23 to 5.30).

⁶⁰ PSR MR15/2.3, *Market review into the ownership and competitiveness of infrastructure provision final report* (July 2016), paragraph 6.75.

⁶¹ PSR MR15/2.3, paragraphs 6.20 and 6.68.

⁶² PSR MR15/2.3, paragraphs 6.113 to 6.124.

- 5.21** We also note that an agreement between the four largest shareholders and a buyer could have features that reduce the current shareholders' incentives to protect VocaLink from competition even if current shareholders do not fully divest. The presence of such features would play a role in determining the acceptable level of residual shareholding. An example of a feature that reduces the shareholders' incentive to protect VocaLink from competition would be a [§<]. We therefore consider that a partial divestment to about 10% would be likely to be effective, subject to considering any related features of the remaining shareholders' agreement with any new owner.
- 5.22** As set out in paragraph 5.2, current ownership and governance arrangements **discourage alternative providers of central infrastructure services from entering the UK market**: some alternative providers believe that they would be at a competitive disadvantage against VocaLink. This is because VocaLink's shareholder PSPs also own or control the operators of the three payment systems of Bacs, FPS and LINK. These alternative providers view the current ownership arrangements as a barrier to entry into the market for the provision of infrastructure services.
- 5.23** In our remedies consultation, we considered what level of reduction in collective shareholding in VocaLink would address some alternative infrastructure providers' perception that VocaLink shareholders would favour VocaLink in a competitive procurement. We provisionally concluded a reduction to around 10% would be effective.
- 5.24** As part of our consultation on the interim report, one operator explained that a full divestment of the shares of the owner PSPs should be pursued in order to completely remove any incentives they may have to shield VocaLink from competition and undermine any future procurement exercise. One independent ATM deployer outlined that either a full or partial divestment would be effective to remove conflicts of interests, especially for LINK as there is a high degree of overlap between members' rights on LINK and the ownership structure of VocaLink.
- 5.25** However, none of the alternative providers of infrastructure services recommended a full divestment.
- 5.26** VocaLink noted that in previous relevant merger cases where the Competition Commission required divestment, it decided that full divestment would be unnecessary and therefore disproportionate. It argued that a full divestment would therefore not be reasonable or proportionate in relation to it.
- 5.27** Of the alternative providers that have previously told us that the current ownership arrangements were a barrier to entry, two told us that they would be more likely to participate in a procurement exercise if the UK banks at least partially divested their ownership of VocaLink. Both of these providers explained divestment must ensure that the four largest shareholders no longer have a large stake in VocaLink.
- 5.28** One alternative provider, in addition to VocaLink and Mastercard said that the sale of VocaLink to Mastercard in which the four largest shareholders would hold a minority stake in the company would help to improve the level of competition for infrastructure services.
- 5.29** Overall, a number of those alternative providers that viewed the current ownership arrangements as a barrier to entry have indicated that a partial divestment would be a sufficient remedy. In addition, their responses also suggest that a partial divestment would enable sufficient competition for infrastructure services among providers.
- 5.30** We therefore conclude that a reduction by the four largest VocaLink shareholders to a relatively small collective shareholding of around 10% would be effective in addressing the findings outlined in paragraph 5.2. The acceptable level of shareholding can also depend on features in the agreement between the buyer and the sellers, if such features reduce the incentive to protect VocaLink from competition as set out in paragraph 5.22. In light of Mastercard's acquisition of VocaLink, we do not consider it necessary for us to determine an exact maximum figure.

No need for governance changes

- 5.31** We considered whether an effective remedy should also require the four largest shareholders not to seek or accept board representation. As discussed in paragraph 5.16 onwards, our final report found that the reason why the four largest shareholders are unwilling to turn to alternative infrastructure suppliers is because they are able to exercise joint control over VocaLink as a means of ensuring the delivery of stable, secure and resilient services. A divestment that removes joint control by the four largest PSPs (as outlined in paragraph 5.18) will effectively resolve this.
- 5.32** In our final report we found that the four largest shareholders of VocaLink (prior to its sale to Mastercard) have significant influence on the VocaLink board because they hold four out of the 12 board positions where decisions are made by consensus.⁶³ They could also exert their interest through board sub-committees.⁶⁴ If VocaLink were sold to a buyer under conditions which allow that buyer to determine the governance and board structure of VocaLink, we believe it would be unlikely that there would be a negative impact on competition due to VocaLink's board structure as a result of the remaining shareholding of the four largest PSPs or governance more generally.
- 5.33** In our final report, we also found that the four largest shareholders controlled the Operational Oversight board sub-committee (OOC) and through it are able to exercise their interest in maintaining security, stability and resilience.
- 5.34** The OOC had the power to bypass the board and escalate recommendations to shareholders as reserved matters. However, a divestment that removes control of VocaLink from the four largest shareholders would also remove their ability to control decisions on shareholder reserved matters. Therefore, as we set out in our remedies consultation that we do not consider the OOC to have any continuing relevance, regardless of whether or not this committee continues to exist under new ownership.
- 5.35** In response to our remedies consultation, one alternative infrastructure provider said that there may be a conflict of interest between the four largest PSPs and VocaLink depending on company board voting rights, power of veto, structure of the VocaLink board and company strategy. Given the above, we conclude that governance changes would not be required in addition to divestment if VocaLink is divested to a buyer under conditions which allow that buyer to determine the governance and board structure of VocaLink.

Our assessment of the Mastercard transaction

- 5.36** Under the terms of the Mastercard acquisition it owns 92.4% of VocaLink. The large majority of the remaining 7.6% of VocaLink shares are held by three of the four current largest VocaLink shareholders.
- 5.37** One of the former four largest VocaLink shareholders [redacted] has sold its entire shareholding and the three remaining largest VocaLink shareholders hold a combined stake of around 6%. A shareholding of this size is significantly below the level required to jointly control VocaLink (see paragraph 5.18). It is a relatively small shareholding and below the level of around 10% which we find would be an effective remedy (see paragraph 5.30).

⁶³ PSR MR15/2.3, paragraph 6.69.

⁶⁴ PSR MR15/2.3, paragraph 6.72.

- 5.38** Considering the transaction against the factors which we found lead to a likely restriction in the level of competition, we consider that:
- a) As this transaction would remove the four largest shareholders' ability to control VocaLink, by reducing their shareholding to a level below 25%, they would no longer be unwilling to turn to alternative infrastructure suppliers on the basis of the benefit they perceive from using a supplier they control.
 - b) As this transaction reduces the four largest shareholders' interest in VocaLink to around 6%, which is very small, we consider it to substantially remove any basis on which the ownership arrangements would discourage alternative suppliers from entering the UK market.
 - c) As this transaction reduces the four largest shareholders' interest in VocaLink to around 6%, which is very small, we consider this transaction would significantly reduce any interest these shareholders have in protecting VocaLink from competition. We consider that when combined with the features of the transaction set out below, the incentive to protect VocaLink from competition will be removed.
- 5.39** There are features of the Mastercard transaction agreement that significantly reduce any remaining financial incentive that the three largest remaining shareholders of VocaLink would have had to protect it from competition.
- 5.40** The agreement between Mastercard and VocaLink's remaining shareholders contains a number of put and call options:
- a) [redacted]
 - b) [redacted]
 - c) [redacted]
 - d) [redacted]
- 5.41** The way in which the price for the shares is calculated further reduces any incentive that shareholders may have to protect VocaLink from competition. Specifically:
- [redacted]
 - [redacted]
 - [redacted]
 - [redacted]
- 5.42** [redacted]
- 5.43** Given the structure of the put and call arrangements, the remaining shareholders are guaranteed at least [redacted] if any of the options are exercised. [redacted]. In our view, the price that the shareholders would obtain for their shares when exercising these options is unlikely to be significantly affected by whether VocaLink obtained any of the contracts for Bacs, FPS and LINK central infrastructure services in future. Significantly, the price could not fall below [redacted].
- 5.44** [redacted].
- 5.45** Following the transaction, Mastercard will own and control VocaLink and therefore determine its governance and board structure. Following the Mastercard transaction, further changes to VocaLink's governance will therefore not be necessary to address our concerns.
- 5.46** On this basis of paragraphs 5.36 to 5.45, we conclude that the Mastercard transaction would address the ownership and control issues that we identified in our final report.

6 Effectiveness and proportionality of our remedies package

We assess that our two remedies and the proposed Mastercard acquisition of VocaLink will be effective in establishing competition **for** the market.

We have identified a restriction of competition in the supply of infrastructure services that produces negative effects for service-users.

These include:

- higher prices
- less innovative services
- lower pressure on the incumbent supplier to be efficient
- a potentially lower quality of service

The benefit of our remedy package is the substantial elimination of these negative effects.

We quantify only the price benefit, which we estimate at £100 million to £200 million. However, we think that the innovation benefit is likely to be at least as important. We assess the costs and calculate a net present value of our package, which is positive even without considering the benefits to innovation. The benefits of our package outweigh a reasonable estimate of the cost.

We conclude that our package of remedies is proportionate.

Introduction

- 6.1** In Chapters 3 to 5 we considered different options for our two proposed remedies and for the change in ownership of VocaLink. For each remedy we identified the least costly effective option. Taken together, these form our remedies package.
- 6.2** In this section we consider our remedies package's:
- **Effectiveness:**
 1. How it remedies the issues we have identified.
 2. Timing and duration, including interaction with the Forum.
 - **Proportionality:**
 1. Is it no more onerous than necessary to achieve its aim?
 2. Is it the least onerous if there is a choice?
 3. Does it produce adverse effects that are disproportionate to its aim? This includes an assessment of whether there are any benefits to users under the current circumstances that would not arise after we implemented our remedies.
- 6.3** We then set out our decision on our package of remedies.

Effectiveness

6.4 We first consider the effectiveness of the package.

How it remedies the issues we have identified

6.5 In our remedies consultation we proposed to implement two remedies comprising:-

- mandating competitive procurement exercises for Bacs, FPS and LINK (Competitive Procurement Remedy)
- the introduction of ISO 20022 messaging standards in the next procurement for Bacs and FPS (messaging standards remedy)

6.6 Given the proposed Mastercard acquisition of VocaLink, we did not propose to implement a divestment remedy at that time. We provisionally concluded it would be effective in addressing the ownership related competition issues identified in place of a divestment remedy.

6.7 Most stakeholders either agreed with our provisional finding on the effectiveness of the package of remedies we proposed, or did not comment on it at all. Three stakeholders did, however, raise issues concerning the effectiveness of the package:

- a) One alternative provider told us that it believes 'the PSR has not provided sufficient evidence to link the introduction of the remedies to the benefits to competition that it would like to see'.
- b) Another alternative provider told us it believes that 'the assessment of the effectiveness of the proposed remedies package both underplays the incumbency advantage and also the potential benefits'.
- c) Another industry participant told us that it did not agree with our assessment of the effectiveness of the package, noting that '[t]he commercial entities have to be given the opportunity to determine the way forward. [...] With the wider work of [the Forum] and the establishment of the Payment Community, we believe that the opportunity for new entrants to engage and to collaborate is addressed'.

6.8 In relation to the first of these comments there was no further explanation. In our final report we set out our assessment of the impact on competition and in this report we explain our reasons why we consider that the remedies proposed will be effective in remedying the competition issues we have identified.

6.9 The other alternative provider's points in paragraph 6.7b relate to the incumbency advantage in relation to the competitive procurement remedy and the benefits of the package. As outlined in Chapter 3, we do not consider that VocaLink has such an incumbency advantage from its existing relationship that will hinder the effectiveness of a competitive procurement exercise (see paragraphs 3.24 to 3.50). We consider the benefits of the package in the proportionality section of this chapter (from paragraph 6.26). In relation to the third comment we received, while we acknowledge the work of the Forum, which is in progress and may increase competition in parts of the payments sector, none of these developments would require central infrastructure to be competitively procured.

6.10 We consider the package of remedies together address the following competition issues that we identified in our final report:

- a) The lack of competitive procurement exercises by the operators is a barrier to entry that prevents potential providers from competing.
- b) That operators and direct PSPs do not have a strong incentive to run competitive procurements, which has resulted in limited competitive pressure on VocaLink.
- c) The use of bespoke messaging standards by Bacs and FPS, which represent a barrier to entry for alternative providers of central infrastructure services.
- d) That the current ownership and governance arrangements at VocaLink are likely to reduce the level of competition in the provision of central infrastructure services.

Timing and duration, including interaction with the Forum

6.11 The timing of the implementation of the remedies is relevant when considering the effectiveness of the remedies package. The interaction of our remedies with the work of Forum is also an important consideration. In designing our competitive procurement remedy (see Chapter 3) and our messaging standards remedy (see Chapter 4) we have paid particular attention to their interaction with the Forum.

6.12 We consider that the present use of bespoke messaging standards, and the likely reduction in competition caused by the previous ownership and governance arrangements, are both restrictions or distortions of competition. If these were not addressed, they would reduce the effectiveness of our competitive procurement remedy. Therefore, for the procurement remedy to be effective we consider that our messaging standards remedy and the change in ownership of VocaLink should be addressed by the time a competitive procurement takes place (see paragraphs 3.55 to 3.58). As for the duration of the remedies, we consider it appropriate that both remedies do not have an end date. For as long as the current model of collective procurement prevails we consider this necessary to ensure competitive procurement takes place. Furthermore, we do not consider it practicable at this time to specify an end date for the messaging standards remedy as it's unclear by when PSPs and alternative providers' need for mapping documentation will end. These remedies will remain in place unless amended or revoked by us. In line with our Markets Guidance (see paragraph 3.32 of the guidance) we will continue to monitor the effectiveness and proportionality of these remedies.

Decision on the effectiveness of the package

6.13 Taken together, we believe these measures will be effective in establishing competition **for** the market, under the existing market structure. The competitive procurement remedy will address the barriers to entry described in 6.10 a and b, as set out in paragraphs 3.55 to 3.58 and 3.159. However, in order for this to be effective:

- the messaging standards remedy is needed to address the barriers to entry set out in 6.10c in any procurement exercise
- VocaLink ownership and governance arrangements need to have been addressed to ensure there is a strong incentive for operators and PSPs to consider providers they do not own.

6.14 As set out in Chapters 4 and 5, we find that our messaging standards remedy and the acquisition of VocaLink by Mastercard are effective in addressing these issues.

Proportionality

Is the package no more onerous than necessary to achieve its aim?

- 6.15** We now consider whether each of the individual proposed remedies is necessary to address the problems we have identified.
- 6.16** We found in our final report that the operators do not have a strong incentive to drive effective competition, and that they have not run competitive procurements in the past. Also, direct PSPs do not have a strong incentive to encourage the operators to drive effective competition.⁶⁵ The proposed competitive procurement remedy serves to address this problem. If it were excluded from the package, operators may not procure infrastructure services in a competitive manner. This would defeat the purpose of the proposed package of remedies.
- 6.17** We also found that lack of competitive procurement exercises is a barrier to entry and that processes to ensure that the outcomes meet service-users' needs are lacking.⁶⁶ The proposed competitive procurement remedy addresses these findings.
- 6.18** The messaging standards remedy and changes in the ownership of Vocalink will not by themselves address any of these problems. If these two remedies alone were implemented, operators would still lack a strong incentive to drive effective competition. Direct PSPs would still not have a strong incentive to encourage the operators to do so.⁶⁷
- 6.19** As the procurement remedy is necessary to address the problems set out above, it is also necessary to have a messaging standards remedy and changes in the ownership of Vocalink. For the reasons set out in paragraphs 3.55 to 3.58, the procurement remedy would not be effective without these changes.

Is the package the least onerous if there is a choice?

- 6.20** The package is the least onerous combination of options. For the reasons we set out above, we could not make the package less onerous by taking any individual remedy out of it.
- 6.21** For each individual remedy, we have chosen the least-costly effective option. This means that the package of remedies as a whole is the least onerous package (we explain from paragraph 6.46 that we do not consider there are any benefits that will be lost). Technically, the latter conclusion could be invalid if the specific choice of how a given remedy is implemented materially affects the cost of implementing the other remedies. We do not believe that such interaction of costs is a relevant concern for the remedies we propose.

Does the package produce adverse effects that are disproportionate to its aim?

- 6.22** We set out below the benefits and costs of the remedy package, on which we consulted. We then assess whether the benefits of the package would outweigh the costs.
- 6.23** The benefit of the package is the elimination of the negative effects caused by the restriction of competition we have identified.
- 6.24** The costs of the package are:
- implementation costs
 - lost benefits (if any)

⁶⁵ PSR MR15/2.3, Market review into the ownership and competitiveness of infrastructure provision – final report (July 2016), paragraphs 4.306 to 4.311.

⁶⁶ PSR MR15/2.3, paragraphs 4.307 and 4.308.

⁶⁷ If the barrier to entry due to messaging standards were eliminated and the four largest PSPs divested their shares in Vocalink, the problems we set out in our final report in paragraphs 4.81 and 4.82 would still be present.

6.25 Lost benefits are any benefits to users that arise under the current circumstances but would not arise after we implement our remedies.

Benefits of the package

6.26 The restriction of competition we have identified causes negative effects to those who use payment systems. In the following paragraphs we assess those negative effects. The **negative effects** are the following:⁶⁸

- Users get **less innovative services** than they would if the supply of infrastructure services were competitive. We expect improvements due to innovation to help payment systems better meet user needs. Innovation will therefore bring significant benefits to those who use payment systems, though we have not quantified these (see paragraph 6.28). We expect that effective competition in the supply of infrastructure services would spur the incumbent supplier to innovate. It would do this to reduce its risk of being displaced by an alternative supplier. We also expect such competition to spur alternative suppliers to innovate. This would improve their chances of winning against the incumbent supplier when operators procure infrastructure services. We recognise there is scope for further enhancements that may arise as a result of the threat of competition. For example, the Forum's final strategy points to innovations that would be beneficial to users, including assurance for users that their payments are reaching the correct recipient.⁶⁹ There are also innovative features of payments systems in other countries that could benefit users if adopted by UK payment systems. These include cloud-based flexible capacity (which allows processing and storage capacity to be scaled up and down depending on users' needs at certain times) and central archiving and retrieval functionality for storing transaction details.⁷⁰ For these reasons, we expect improved services due to innovation to bring significant benefits to those who use payment systems.
- Operators pay **higher prices** than they would if the supply of infrastructure services were competitive. We estimate that this negative effect totals for all three systems around £[3<] million per year. For a shorter term five year contract, the negative effect would in nominal terms total £[50 to 109] million, and for a longer term ten year contract the negative effect would total £[164 to 259] million.⁷¹ This estimate is based on the LINK request-for-information (RFI) experience. As we do not consider the LINK RFI a full competitive exercise, our estimate is likely to understate the actual level of the negative effect due to higher prices. However, this is the most recent relevant example of a PSO considering alternative suppliers and the savings that may be achieved, which we consider is the best example available for this assessment. We also consider that this example is informative for Bacs and FPS as well as LINK. While we recognise the differences between these schemes, the services being procured are similar and we have not identified material differences in the competitive conditions for infrastructure services provision to these schemes. In paragraph 6.85 onwards we set out our response to comments received from LSL on the price benefits to the LINK scheme.
- The operators' supplier of infrastructure services faces less pressure to be efficient than it would if the supply of infrastructure services were competitive. In a competitive market, we would expect suppliers to strive to serve customers' needs as efficiently as possible. As VocaLink is not subject to effective competition, it may not have a strong incentive to become efficient. It may have inefficiently high costs, which may result in higher prices. We have not quantified the monetary value of this negative effect. However, our estimate of operators and PSPs paying higher prices of between £[50 to 109] million and £[164 to 259] million could in part be due to productive inefficiency.

⁶⁸ See Annex 2 for a detailed assessment of the detriment.

⁶⁹ Payments Strategy Forum, *A payments strategy for the 21st century – final strategy* (November 2016): <http://consultation.paymentsforum.uk/final-strategy>

⁷⁰ PSR MR15/2.3, paragraph 4.161.

⁷¹ See Annex 2. These are ranges which contain the estimate we have used. We consider that estimate to be confidential. For the upper bound of the range, we have added a positive random number to the estimate. For the lower bound, we have subtracted a different, positive random number from the estimate

- We also, considered whether operators get a lower quality of service than they would if the supply of infrastructure services were competitive. Operators and suppliers agree on a range of indicators of service level, including availability, how quickly the supplier should respond to operators' calls and how quickly individual payments should be processed. While we do not consider current levels of availability problematic, we consider that competition could improve the level of service suppliers undertake to provide. We acknowledge that the operators that renegotiated their infrastructure supply agreements with their existing supplier achieved improvements to services and functionality. It is not clear that the improvements relative to the previous situation that accrued to LINK following the procurement exercise exceed the improvements that accrued to Bacs and FPS following renegotiations (see Annex 2, paragraph 2.62). We therefore do not put much weight on improvements to service level indicators that could arise as a result of the remedy package and have not quantified these.⁷²

6.27 The benefit of the remedy package is the substantial elimination of the negative effects set out in paragraph 6.26 because it introduces effective competition. We have estimated that the elimination of these negative effects, to the extent quantified, is worth around £[<] million per year. We have considered these benefits against a realistic counterfactual of renegotiation with an existing supplier (see Annex 2, paragraphs 2.7 and 2.17 to 2.19). The real effect may be larger, as our estimate is based on an actual scenario where there was limited competition.

6.28 We do not consider it practicable to quantify all the benefits that can accrue from the implementation of remedies. In our judgement, we do not need to quantify the benefits of the increased scope for innovation, efficiency and quality of service. We consider that it is entirely appropriate in the circumstances of this review for us to reach a judgement that we can rely on a qualitative analysis of benefits. In this case, we consider that a qualitative assessment is appropriate and enables us to reach a clear and decisive conclusion on proportionality. Any attempt to quantify these benefits would not, in our judgement, provide conclusions which would be useful in helping us to reach a clear and robust conclusion on the proportionality of our remedies package.

Costs of the package

6.29 In our consultation we said that the costs of the package are:

- implementation costs
- lost benefits (if any)

Implementation costs

6.30 The relevant *implementation costs of the procurement remedy* are:

- the cost of undertaking a competitive procurement exercise (less any costs due to contract negotiation which are currently incurred)
- the direct PSPs' costs of switching providers
- Risks of switching

6.31 The switching costs and risks would materialise only if the benefits of switching exceed the costs of doing so. Basing the net benefit on the full switching cost is therefore conservative.

6.32 The messaging standards remedy carries implementation costs for Bacs. The change in ownership of VocaLink does not result in any relevant costs to consider.

Costs of procurement

- 6.33** As set out in Chapter 3 we estimate the cost of undertaking competitive procurement for Bacs or FPS is between £6 million and £10 million (see paragraphs 3.176). The lower figure is based on the cost of FPS's initial 'build and run' procurement. The cost for LINK would be between £1.5 million and £2.5 million (see paragraph 3.176).
- 6.34** However, we consider these figures overstate the true incremental cost of running a procurement exercise relative to the current situation. Operators currently incur costs for renegotiation of contracts which would not be separately incurred under a procurement remedy. Some of the figures we have seen also include the cost of procuring services that go beyond what our procurement remedy requires (for example, the implementation of a connectivity layer).

Switching costs

- 6.35** The *direct PSPs' costs of switching providers* are largely unknown and we do not consider we can meaningfully estimate these costs for any of the systems at this time (see paragraph 3.180). The evidence indicates that the cost of migration would vary depending on the extent of changes being made during the migration. This is largely due to the extent of testing that PSPs would need to do.
- 6.36** A like-for-like migration would potentially require only the testing of new connectivity. If the system requirements change materially, then these changes would likely be thoroughly tested even if these were implemented by Vocalink (see paragraph 3.38). The evidence also indicates that the migration costs would vary across different member PSPs. These costs depend on how PSPs connect to the central infrastructure and the complexity of their internal IT systems (see paragraph 3.41).
- 6.37** These migration costs, while potentially significant, are one-off costs. They would therefore need to be compared with the potential benefits of switching providers that could be achieved over the total life of the next contract.
- 6.38** Some stakeholders commented on the implementation costs we used for the proportionality assessment in the remedies consultation.
- 6.39** We received the following comments on costs:
- One direct PSP told us it believes that 'risks and costs ought to be more fully understood and factored in to the proposals', given the impact on providers and end users. It added that direct PSPs' costs are largely unknown and will remain so as long as requirements remain unknown. Using the costs of the PSP's most recent major payments developments (3<) as a 'potential benchmark' for direct PSPs' costs, it told us that 'the costs will certainly be significant and indeed considerably higher than for previous programmes, given the scale of the proposed change'. We understand the risks they are referring to relate to disruption to service as a result of changing provider or infrastructure.
 - Another industry participant told us 'the funding of the [New Payment System Operator (NPSO)], the funding of the competitive procurement and the payment of the New Payment Architecture has not been addressed'.

6.40 We do not think that the cost of change this PSP incurred in its most recent payments developments are informative about PSPs' overall cost of implementing the remedy package. These specific PSP's costs would be informative if:

1. this specific PSP was representative of the group of PSPs that would have to implement the remedy package
2. the extent of the specific PSP's development were similar to the work required to implement the remedy package

We think it is unlikely that the first condition would be satisfied: the PSP in question is one of the largest PSPs among those who would have to implement the remedy package and is therefore not representative of the entire group that would have to implement the remedy package. Cost estimates will also depend on the chosen infrastructure and migration scenario.

6.41 Finally, the funding of the NPSO and the payment of the new payments architecture do not arise as a result of our remedy package. They should therefore not be included in our assessment of whether the remedy package is proportionate. The funding of the competitive procurement is a cost of the procurement remedy. We deal with the costs of that remedy in Chapter 3.

Risks

6.42 As for the risks, we explained in paragraph 3.180 that the cost and risks of switching will arise only in the event that the competitive procurement prompts the operator to switch suppliers. Risks of switching are therefore not identical to risks of the remedy.

6.43 We considered whether we could assess the magnitude of risks. While the risk of disruption to service generally has been raised, the specifics of any switching risk depend on the migration scenario, which is not currently known (see paragraph 3.36). To assess specific risks would require identification of likely adverse scenarios and estimating what costs would be incurred in mitigating the risks of those scenarios. We did not consider such an analysis would produce a conclusive or informative results because of the uncertainty of identifying suitable scenarios and difficulty in estimating the associated costs.

6.44 We also believe that the risks of switching should be manageable thereby reducing the impact of such risk.⁷³ We believe the operators have an interest in managing risks, which is reinforced by the Bank of England's oversight of the relevant payment systems. We also note that the procurement remedy allows operators to apply for an exemption in unforeseen circumstances. This would further help them manage the risk of switching.

Lost benefits

6.45 While we acknowledged in our final report that the current ownership arrangements could produce some benefits to users,⁷⁴ our proposed remedy package will not result in the loss of any such benefits. In relation to lost benefits from current ownership arrangements, this is because of the current owners' sale of Vocalink shares. As we explain in paragraphs 5.36 to 5.46, our view is that the Mastercard transaction addresses the issues we identified in relation to ownership outlined in 6.10.

6.46 We did not identify any lost benefits arising from our procurement or messaging standards remedies, nor were any such benefits highlighted during our market review. In our remedies consultation we consulted on our provisional conclusion that neither our procurement nor our messaging standards remedy would result in the loss of any benefits.

⁷³ PSR MR15/2.3, paragraphs 4.227 to 4.228

⁷⁴ PSR MR15/2.3, paragraph 6.142.

- 6.47** Most stakeholders did not comment on whether the remedy package would result in the loss of any benefits. Of those that did:
- One alternative infrastructure supplier told us that a ‘standardised solution may be less able to accommodate bespoke services’, and ‘any loss in benefits [should] be weighed against overall cost and the user tariff model’. A direct PSP told us that ‘the potential increased investment and payments costs associated with these remedies could be passed on to the end users downstream, making the underlying cost of payments more expensive’. It also noted that ‘the opportunity costs, brought about by the focus on competitive procurement, may forestall service improvements that would otherwise have been made’.
 - Another industry participant cited a range of features that are currently in place in UK payments. It did not claim that any of these features would be lost as a result of the remedy package, or explain why any of the benefits could be lost.
 - A second direct PSP told us that, in general, it did not envisage that the overall package will bring a loss of benefits to users. It noted that there may be features ‘that are used by some users, but [...] actually bring complexity to the process – be it in the core back-office, the end users or the legal/compliance regime around the transaction’. If such features were changed, there may be impact on certain users.
- 6.48** The alternative infrastructure provider, the second direct PSP and the other industry participant have not pointed to specific benefits that may be lost as a result of the remedy package. As set out in paragraph 6.46, neither we ourselves nor stakeholders have identified any specific benefits. The first direct PSP’s first point seems to be that market participants will incur costs when implementing the remedies. We have incorporated the costs of implementing the remedies in our assessment of whether the package is proportionate.
- 6.49** The first direct PSP’s second point is that competitive procurement may prevent the implementation of service improvements that would otherwise have been made. The PSP has not pointed to any specific examples of improvements that market participants would make if the remedy package were not implemented. As outlined in paragraph 6.83 we consider the package of remedies will bring net benefits from the increased scope for innovation, efficiency and quality of service. For the reasons outlined in 6.28, any attempt to quantify these benefits would not, in our judgement, provide conclusions which would be useful (due to the practical challenges of calculating these benefits) in helping us to reach a clear and robust conclusion on the proportionality of our remedies package.
- 6.50** Taking into account the comments received, our view is that neither the competitive procurement remedy nor the messaging standards remedy will result in the loss of any benefits.

Other costs

- 6.51** In relation to the messaging standards, for the reasons explained in Chapter 4 (see paragraph 4.83), we do not consider that the cost of developing mapping between legacy standards and ISO 20022 is a relevant cost. However, there would be a fixed cost of £1 to 2 million for implementing message translation for Bacs (see paragraph 4.87).
- 6.52** As we explained in Chapter 5, in the light of the Mastercard transaction we do not consider that there are any relevant costs to consider in relation to the change in ownership of VocaLink.

The benefits of the remedy package likely outweigh the costs

- 6.53** We now assess whether the benefits of the remedy package outweigh its costs.
- 6.54** We have calculated the net present value (NPV) of implementing the remedy package. This is appropriate as the costs of the package would be incurred in the relatively near future, while the benefits would accrue over a period of several years following the implementation of the package. This approach takes into account the fact that people and firms generally prefer to receive benefits sooner rather than later, and prefer to incur costs later rather than sooner.
- 6.55** We have compared the benefits and costs that arise under the remedies to the benefits and costs that would arise if schemes would renegotiate their agreements with their existing supplier – the counterfactual costs and benefits (see Appendix 2, paragraphs 2.7 and 2.17 to 2.19, for counterfactual benefits.) The approach is to (a) estimate the benefits that would accrue with the remedies in place, relative to the situation prior to the implementation of the remedies; and (b) estimate the counterfactual costs and benefits relative to the situation before renegotiation. We then subtract (b) from (a). This approach is intended to reduce any bias in our estimate of the benefits due to changes that would have occurred without competitive procurement.
- 6.56** We note, however, that our calculation will understate the true net benefits of the remedy package as the benefit that will arise from greater innovation in payment systems would be significant and we have not quantified the value of this benefit. The calculation therefore does not reflect the benefits that would arise due to innovation. As we explained in paragraph 6.26, we expect that innovation will bring significant benefits to those who use payment systems.
- 6.57** We have used an annual discount rate of 3.5% for the NPV calculation. This is the social time preference rate for cost-benefit analyses recommended by the Treasury.⁷⁵ To assess how sensitive our analysis is to changes in the discount rate, we have also calculated the NPV using annual discount rates of 2.5% and 4.5%.
- 6.58** The calculation assumes that:
- operators incur the costs of running procurements in mid-2017
 - PSPs incur any costs of migration to a new infrastructure supplier in mid-2018
- 6.59** The exact time at which PSPs or operators incur costs has a very modest impact on the net benefit of the package. We do however believe that these assumptions are conservative. The costs are in reality likely to be incurred somewhat later, and over a period of time.
- 6.60** The calculation further assumes that the benefits of the remedy package begin to accrue at the beginning of 2020, and accrue annually from then on. We consider scenarios in which benefits accrue over periods of five years, eight years and ten years.
- 6.61** We understand that contracts between the operators and VocaLink have historically lasted at least five years. Contracts lasting more than five years could be necessary to ensure that the benefits of switching outweigh costs. Contracts lasting more than ten years would mean increased risk that conditions change in a way that makes the terms of the contract unsuitable. We have proposed requiring re-procurement at least every ten years. We therefore consider it likely that the duration of contracts will be between five and ten years.

⁷⁵ HM Treasury *The Green Book*, paragraphs 5.48 to 5.53: www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

- 6.62** There are some costs which cannot be reliably estimated. We leave the following costs (**the unquantified costs**) out of the calculation:
- The cost that PSPs would incur in the migration to a new infrastructure.
 - The cost of testing translation from Standard 18 messaging to ISO 20022 messaging in the event a supplier other than VocaLink wins the contract for Bacs (see paragraph 4.70).
- 6.63** Leaving these costs out does not mean that we consider them to be zero. Instead, it means that we must interpret the result of our calculation differently. If the real switching costs exceed the value we calculate, the cost of the package would outweigh its benefit. This gives us a benchmark. If it seems unlikely that the switching costs exceed the value we calculate, then the benefit of the package is likely to outweigh its cost. We comment in paragraphs 6.75 to 6.77 on how likely it is that the unquantified costs would be so high as to result in no net benefits.
- 6.64** For both Bacs and FPS, we use £6 million and £10 million as the lower and upper ends of the range of costs of running procurements. For LINK, we use £1.5 million and £2.5 million as the lower and upper ends of the range of costs of running a procurement (see paragraph 3.176).
- 6.65** We have also considered two different levels of annual benefit. The high estimate is £[<] million per year (see paragraph 6.26). The low estimate is £[<] million per year.⁷⁶ The low estimate corresponds to a total benefit of £[34 to 134] million in nominal terms for a shorter-term 5 -year contract, and £[124 to 192] million for a longer-term ten- year contract.⁷⁷ Note that this is only the price benefit. We have not included any effects of worse service, inefficient supply or less innovation in the calculation (see paragraph 6.28). Our calculation is therefore conservative in that it may understate the actual benefit of our remedy package. (As we noted in paragraph 6.26, our estimate may also understate the negative effect of higher prices.)
- 6.66** We explained in Annex 2 (paragraph 2.39) that for Bacs we assess the benefits against a counterfactual where Bacs achieved some pricing benefits when renegotiating its agreement with VocaLink. We consider this to be a conservative approach to assessing the benefits of the remedy package. As we noted in Annex 2 (paragraph 2.10), it is not clear that VocaLink offered a net concession to BPSL in its most recent contract renegotiations with VocaLink.
- 6.67** Further, we explained that we have treated this pricing benefit for Bacs as a £7.5 million cost that arises due to the implementation of the remedy package (see Annex 2, paragraph 2.39). The pricing benefit for Bacs is foregone relative to the counterfactual. This is because we assume the pricing benefit is foregone if Bacs procures. In the calculation, this cost is incurred on 30 December 2020 (see Annex 2, paragraph 2.40).
- 6.68** We assessed two combinations of costs and benefits:
- In the 'optimistic scenario' we have assumed that the benefit is high (£[<] million per year) and the cost is at the low end of the range.
 - In the 'pessimistic scenario' we have assumed that the benefit is low (£[<] million per year) and the cost is at the high end of the range.
- 6.69** The cost due to the foregone pricing benefit for Bacs (paragraphs 6.66 to 6.67) is the same in both scenarios.
- 6.70** As we do not believe the remedies would result in the loss of any other benefits, we have not included any such costs in the calculation.

⁷⁶ The low estimate assumes that competition results in [9-23]% lower fees, while the high estimate assumes that competition results in [13-29]% lower fees.

⁷⁷ These are ranges which contain the estimate we have used. We consider that estimate to be confidential. For the upper bound of the range, we have added a positive random number to the estimate. For the lower bound, we have subtracted a different, positive random number from the estimate.

6.71 Table 1 below shows the results of our NPV calculation. A positive value indicates a net benefit (before taking any switching costs into account). This table combines the net present value across Bacs, FPS and LINK, using the annual figures for each system set out in Annex 2.

Table 1: Net present value of remedy package – no migration cost included (£ million)

Period over which benefits accrue ([years])	Discount rate (per year)					
	2.5% Scenario		3.5% Scenario		4.5% Scenario	
	Pessimistic	Optimistic	Pessimistic	Optimistic	Pessimistic	Optimistic
Short term (5 years)	∞	∞	33	64	∞	∞
Medium term (8 years)	∞	∞	66	109	∞	∞
Long term (10 years)	∞	∞	87	136	∞	∞

Note: The date to which costs and benefits are discounted is [23 February 2017]. (The Remedies Consultation discounted costs and benefits to September 2016.)

6.72 The table shows that over the full range of discount rates, scenarios and durations, our conservative estimate of the net present value of the remedy package excluding migration costs is between £[∞] million and £[∞] million. As we explained above, our calculation understates the value of the remedy package. We expect that the benefits due to increased innovation will be significant, and the calculation does not reflect any such benefit (see paragraph 6.28).

6.73 The 3.5% discount rate is our main scenario (see paragraph 6.57). The table shows that using this discount rate, the net benefit of the package – excluding migration costs – is at least £33 million. This figure takes into account benefits that accrue in the shorter term contract (five years). We estimate, however, that the net benefit of the package over a short period could be as high as £64 million (again excluding migration costs). We also estimate that the net benefit over a medium long contract (eight years) is between £66 million and £109 million. Over a long contract (ten years), we estimate that the net benefit is between £87 million and £136 million.

6.74 The table also shows that results of the NPV calculation do not change much under the alternative assumptions about the discount rate that we have considered.

6.75 We now consider the role of switching costs in the assessment of whether the benefits outweigh the costs. As we explain in paragraph 6.35 these are not quantifiable at this time. It would be appropriate to consider the switching costs PSPs would incur in a 'like-for-like' switch (a switch between infrastructure suppliers when the suppliers offer the same functionality). The benefits we used in the assessment do not include the benefits of any additional system functionality that may result when an operator procures new infrastructure services. Using switching costs based on any other scenario would therefore understate the net benefits.

6.76 We expect that in situations where there are user needs to fulfil, operators will procure new functionality (i.e. innovation) that brings additional benefit. This additional benefit could balance higher switching costs that arise outside like-for-like situations.

6.77 The benefit of the remedy package likely outweighs its cost if we take into account the ability of the operator to determine the length of the contract. For example, taking our estimate of the benefits accruing over a medium long contract of eight years, it seems unlikely that the unquantified costs (see paragraph 6.62) would reach as high as £66 million. Even in a scenario where all operators switch away from Vocalink – the scenario that would result in the highest unquantified cost – these costs would be unlikely to reach this level. A total cost for switching and testing translation of £66 million across all three operators represents a cost of more than £1 million per PSP and operator.⁷⁸ For LINK we consider this further in paragraphs 6.85 to 6.89.

Stakeholder views on proportionality

6.78 Most respondents either agreed with the assessment of the proportionality of the remedy package we set out in the remedies consultation, or did not comment on it at all. A direct PSP made two points in relation to the cost-benefit analysis. Firstly, it told us that in its view, if all of the schemes were to switch provider and move to a new messaging standard, the PSP's own costs could significantly exceed £1 million. Moreover, it would be appropriate to take all switching costs into account, because these are ultimately passed on to end users. It is, in this PSP's view, therefore 'very plausible' that switching costs could exceed £75 million in some scenarios.

6.79 Secondly, the PSP noted that the net present value for a number of our cost-benefit analysis scenarios is significantly lower than £75 million which, in its view, would imply costs that exceed benefits under our analysis.

6.80 The PSP has not explained why it thinks its costs of transitioning to a new provider and switching to a new messaging standard could significantly exceed £1 million. We note that PSPs would not have to switch to a new messaging standard under the remedy. They would be free to send messages in the legacy standard. Even if the PSP had demonstrated that its cost of implementing the remedy package would significantly exceed £1 million if all of the schemes were to switch provider and to a new messaging standard, that would not establish that all affected PSPs' aggregate migration costs are likely to exceed £75 million. This is for two reasons: firstly, the PSP in question has not explained why its migration costs would be indicative of a typical direct PSP's cost of transitioning. The PSP in question is one of the largest in the UK, and we think it is unlikely that its costs would be representative of a typical PSP's costs. Secondly, the PSP in question has said that its costs could significantly exceed £1 million if all schemes change providers, which is a very specific assumption. As set out at paragraph 3.180, our remedy does not necessitate that an operator switch provider following a competitive procurement.

6.81 In relation to the PSP's second point, we note that there was one case in Table 1 in our remedies consultation where the net benefit (without taking migration costs into account) is significantly less than £75 million. This is the pessimistic (low benefit, high cost) scenario, with a contract of short duration (five years). The same scenario with a medium duration (eight years) in Table 1 of the remedies consultation shows a net benefit of £75 million (without taking migration costs into account). Our remedy allows operators to enter into a longer-term agreement with an infrastructure supplier if it deems a shorter-term agreement would not be beneficial. We would expect that operators would make use of this ability to enter into longer-term agreements to ensure that switching provides value for money. The PSP's second point therefore does not cause us to reassess the proportionality of the remedy package. (The same argument applies to the revised £66 million cost in Table 1 above.)

⁷⁸ This assumes there are 15 direct members of Bacs, 11 direct members of FPS and 34 direct members of LINK.

- 6.82** An alternative provider told us that ‘the PSR has attempted to carry out a cost-benefit analysis for the package of remedies it introduced’, but does ‘not believe that the PSR’s analysis is sufficiently robust or based on sufficient evidence’. It told us it believes that ‘the cost of introducing the proposed remedies may exceed their benefit and result in higher rather than lower costs to users’, and that ‘the quality of the PSR’s analysis is not sufficient to exclude this possibility’.
- 6.83** We acknowledge that we have not excluded the possibility that situations could arise where costs exceed benefits in our analysis of scenarios. We have assessed costs and benefits over a range of assumptions, and found that benefits are likely to outweigh costs in those scenarios where the duration of the contract is sufficiently long (see paragraph 6.77). In any event, we do not agree that an appropriate proportionality assessment requires us to demonstrate that a situation where costs exceed benefits could never arise. Rather, we have assessed whether the expected benefits are likely to outweigh the expected costs.
- 6.84** LSL argued that we had not yet established a strong cost benefit case for our procurement remedy for the LINK system. It noted that the small size of the contract and 2015 RFI process would result in small overall benefit. It said this would be outweighed by the cost of running a competitive procurement (£1.5 to £2.5 million – see paragraph 3.170) and the costs of switching to another provider; LSL estimated the latter to be £15 million.
- 6.85** In relation to LINK, we acknowledge that the smaller size of the contract and the 2015 RFI process, which we consider brought some benefits from competitive pressure, means that the overall expected benefit is smaller than for Bacs or FPS. Both of these factors are reflected in the LINK estimated annual benefit in Annex 2. Our analysis suggests that the quantified benefit of running a procurement for LINK would be £[<] million in the optimistic scenario, and £[<] million in the pessimistic scenario, depending on the length of the contract. These estimates do not take into account switching costs, but do factor in the cost of running a competitive procurement. We consider that even the optimistic scenario is likely to understate the benefits of procurement (see paragraph 6.56). These figures show a price benefit in terms of savings on infrastructure fees from undertaking a full competitive procurement.
- 6.86** As set out in paragraph 3.180, switching costs are largely unknown prior to identifying the migration scenario. While the estimated net benefit is below the highest estimate of switching costs, of about £15 million by LSL, we consider this estimate represents the upper bound and is very uncertain. We consider switching costs likely to be considerably smaller, particularly in light of Mastercard’s undertakings to the CMA which have not been factored in to LSL’s £15 million switching cost estimate (see paragraphs 3.16 and 3.43). We also note the CMA’s views on switching costs expressed in its decision on the Mastercard undertakings.⁷⁹ Mastercard and VocaLink estimated that the cost of migration would be in the range of £750,000 to £1.25 million after implementation of the Network Access Remedy and taking account of the continued use of the LIS5 standard without the need to pay royalties to VocaLink.⁸⁰ This is considerably below the £15 million that LSL cited. In addition, Mastercard’s undertakings to the CMA include:

1. a £5 million switching fund to compensate PSPs
2. provisions that reduce the cost of two providers operating in parallel during transition⁸¹

Therefore, while it cannot be determined beyond doubt that the price benefits of procurement will outweigh the costs, including switching costs, we conclude that on balance they are likely to.

⁷⁹ CMA ME/6638/16 *Decision on acceptance of undertakings in lieu of reference* (21 April 2017), paragraphs 113 and 116b: <https://assets.publishing.service.gov.uk/media/58f9ea0a40f0b606e70001b3/decision-for-final-acceptance-of-uils.pdf>

⁸⁰ CMA ME/6638/16, paragraph 113

⁸¹ CMA ME/6638/16, paragraphs 32 and 19

- 6.87** Further, our remedy does not necessitate that an operator change provider following a competitive procurement, but rather the competitive procurement will enable the operator to identify whether it is worthwhile to switch provider. It is open to LSL to ensure that any tender adequately factors in switching costs such that LSL would be free to stay with the incumbent supplier if this supplier offers the best deal, taking members' switching costs into account.
- 6.88** In addition, our estimated net benefits do not take into account the benefit that arises due to greater innovation (see paragraph 6.56). This benefit is unquantified, but would still contribute to a positive net benefit of requiring LSL to run competitive procurement.
- 6.89** LSL further said that requiring it to undertake a competitive procurement as per our remedy could lead to members leaving the LINK scheme, given the need to commit to a future contract and the fact that there is not yet a strong cost benefit case from this. [§<] No LINK member PSP raised this as a concern in their response to our remedies consultation. As we consider that there is an overall benefit from procurement, as well as for the reasons set out in paragraph 3.97, we consider it unlikely that a member would leave the Link Scheme due to our remedy. [§<]

Decision on proportionality

- 6.90** Based on our analysis above we conclude that our proposed remedy package is proportionate.
- 6.91** None of the comments we received led us to consider that the remedy package could be effective if one or more of the proposed remedies were excluded from the package.
- 6.92** For the reasons set out in paragraphs 6.18 and 6.19, we find that the package would not be effective if one or more of the proposed remedies were excluded from the package.
- 6.93** As for the other industry participant's comment (paragraph 6.47) that the least costly option is still costly, the fact that the least costly effective remedy package creates costs does not make the package disproportionate.
- 6.94** On the basis of our analysis, we consider that benefits would exceed the costs for the reasons explained in paragraph 6.77.

Equality and diversity impact assessment

- 6.95** We are required under the Equality Act 2010 to 'have due regard' to the need to eliminate discrimination and to promote equality of opportunity in carrying out our policies, services and functions. As part of this, we conduct an equality impact assessment (EIA) to ensure that the equality and diversity implications of any new policy proposals are considered. We conducted an EIA for our remedies package prior to consulting on this, and provisionally concluded that none of our proposals raised any concerns in relation to equality and diversity considerations. No equality and diversity impacts were raised in response to our consultation. We do not believe that any of our proposals will have an impact on equality and diversity.

Decision on our package of remedies

6.96 We have decided that the following package of measures would be effective and proportionate in addressing the competition issues identified in our final report:

- Two specific directions under section 54 of FSBRA requiring that if the operators of the Bacs and FPS payment systems contracts for the provision of central infrastructure this is competitively procured at least every ten years. This procurement must enable the use of ISO 20022 messaging standards.
- A specific direction under section 54 of FSBRA requiring that if the operator of the LINK payment system contracts for the provision of central infrastructure this is competitively procured at least every ten years.
- Two specific directions under section 54 of FSBRA requiring the operators of the Bacs and FPS payment systems to make documentation available to allow conversion between existing messaging standards and ISO 20022.
- The Mastercard acquisition of Vocalink will be effective in addressing the competition problems identified in our final report.

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