4. Regulation, public value, and policymaking

Summary

- Good regulation underpins well-functioning markets. But there are inevitably risks of regulatory failure, chiefly ineffectiveness and unintended consequences. A high-level framework that is appropriate for analysing many public policy issues is one that balances the twin risks of market failure and regulatory failure.
- Allocating radio spectrum to uses where it has the highest economic value is central to a rational-comprehensive approach to designing auctions. But some issues bring in broader values (such as equity and social cohesion) that are reflected in 'public value', especially questions of universal mobile coverage.
- The concept of public value encompasses not only the desirability of the outcome, but also the legitimacy and sustainability of the policymaking process.
- Market design can play an especially important role if experts are effective in engaging constructively in policy debate with officials to mitigate decision-making biases, such as overconfidence and limited attention.
- There are times when the incrementalism and bargaining of 'muddling through' are adopted in decision-making for auction design. However, sufficient expertise is needed to appreciate the risks and avoid embarrassing failures.
- For a regulator, a good reputation can strengthen its autonomy and effectiveness. Reputation can be enhanced by various mechanisms of accountability, such as voluntarily engaging in broader and deeper consultation than the minimum required.
- Within the regulator, the dynamic of the multidisciplinary team of different professional skill groups can devolve into negative coordination, such as turf wars where groups battle to protect their autonomy. Or, through constructive communication and mutual recognition, more positive coordination can be achieved to realise synergies from the interdependence of the work.

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The first section in this chapter outlines the role that regulation plays in market design, underpinning the operation of markets, and explains the importance of public value. The second section describes key features of decision-making by the regulator, including its independence, reputation management, mechanisms of accountability, and the coordination of its professional skill groups. The final section concludes with some wider lessons for public policy.

4.1 Regulation and public value

Although markets are often imperfect, so also are regulators. Therefore, the risk of regulatory failure is an important counterpart to the risk of market failure set out in the previous chapter. The idea of public value is important here as it provides a wider goal when designing markets than social value (which is maximised for economic efficiency).

The role of regulation

In many types of markets, regulation is limited, such as the general legal framework that governs private contracts or employment rights. Some sectors are subject to additional regulation, as with the effects of health and safety regulation on the construction industry. There are also many parts of the economy with a specific designated regulator, such as electricity, water, financial markets, or radio communications. Regulation can sometimes be considered a substitute for a market that is regarded as failing, such as price caps on retail energy prices. Or regulation can shape markets, often to promote competition, for instance in electricity generation and retail supply through regulated access to electricity transmission and distribution networks.

Spectrum auctions are one example of a more fundamental type of regulation that designs markets. These markets only come into existence and operate in the way they do because of conscious design to establish their rules and market infrastructure. Another example is the use in some countries of designed wholesale markets in electricity, sometimes with open access forward and spot markets (for future and immediate delivery, respectively), where generator companies sell electricity and retailer providers buy it. Regulation sets the rules of how these electricity markets work, and the market infrastructure may include a systems operator that operationally runs the market and is independent of both buyers and sellers.[1]

Not all designed markets have an independent regulator, and there are cases where the design is undertaken wholly by private companies. An example of such an auction-based market is for internet advertising. This often determines what advert you see when loading a web page via one or more auctions run within milliseconds. The choices made by large private companies, especially Google, determine how these auctions are designed.[2] Where such industry players carry out this role, they may be considered as performing a regulatory function of market design, as well as being market participants. But for the designed markets of spectrum auctions, it is a public sector regulator that sets the rules, operationally runs the market, and provides some market infrastructure, for example the auction software platform.

The job of regulation can be challenging in a world of imperfect choices and asymmetric information. Therefore, as well as assessing market failure, it is crucial to pay close attention to risks of regulatory failure. Just as markets can fail to deliver the optimal outcome, so too regulation can fall short, imposing direct and indirect costs, failing to achieve the desired objective, or leading to unintended

consequences. Regulators often lack key information and have difficult trade-offs to judge in decision-making processes that can be slow, subject to human biases, and at risk of capture by particular interest groups. Regulatory agencies must navigate challenges of public organisations such as efficient operation, accountability, and coordination. Therefore, a high-level framework to analyse many issues is recognising the balance to be struck between *market* failure and *regulatory* failure.[3] Examples are policies to expand mobile coverage (Sections 5.3 and 10.2), band clearance and licensing (Chapter 6), and competition measures (Chapter 9 and Section 10.1).

Given the role that regulation plays in market design, there can be a false dichotomy between markets and regulation. But drawing a distinction between market failure and regulatory failure can still be helpful. To take a practical example, when a spectrum auction goes wrong, which applies? The answer depends on the reasons. There are auctions with sensible designs that ended rapidly or with undesirable outcomes due to lack of competition between bidders, a type of market failure. But there are also examples where problematic regulatory design led to long drawn-out auctions to the extent that the rules had to be changed during the auction itself to bring them to closure (such as Finland in 2013, Poland in 2014, and Portugal in 2021).[4] Later chapters provide further practical examples of regulatory failure, such as coverage obligations overpromising and under-delivering (Section 5.3), and adverse consequences of excessively high reserve prices (Section 7.3).

Public value

The success of a market is achieving desirable outcomes through socially appropriate means. There are different ways of thinking about what constitutes the desirability of outcomes or the means. For our purpose, we are especially interested in the intersection between ideas about market design and public value creation – 'Public value is created by public sector actors creating and co-shaping markets in line with public purpose'.[5] It emphasises the role of the public manager in policy development through a strategic and innovative approach to be 'explorers who, with others, seek to discover, define, and produce public value'.[6]

The starting points, perspectives, and preoccupations of public value and market design are very different, but both have much to offer the practitioner. Public value is explored in public management (or public administration), a scholarly field which has been described as the study and practice of design and operation of the arrangements for the provision of public services and executive government.[7] Another, more colourful description is 'a world of settled institutions designed to allow imperfect people to use flawed procedures to cope with insoluble problems'.[8] Public value creation involves producing what is valued by the public or adds value to the public sphere, highlighting longer term outcomes and processes.[9] Public value is envisaged as the public management equivalent of private sector shareholder value. This book analyses spectrum auctions through the prism of public managers within regulators who strategically link public value to market creation, with the scope to be ambitious in desired outcomes and innovative in their design choices.

Later sections and chapters investigate all three dimensions of the 'strategic triangle' for public value:[10]

- The authorising environment relates to the legitimacy and political sustainability of the regulator with government, politicians, and the public. This is examined in particular in Chapter 5. An example is how the position of the regulator and politicians can be affected by the revenue

raised in auctions, and by reputation management. The respective roles of the regulator and the government are also affected by the potential for split responsibilities or overlap in authority to promote downstream competition or to extend mobile coverage.

- The policy environment is to achieve a valuable outcome from spectrum auctions. For example, the outcomes of UK auctions are outlined in Sections 2.3 and 11.1 (and examined in greater depth in Annex A).
- The operating environment is about administrative feasibility. Sufficient operational capability is relevant both to design auctions (Chapters 7–10) and to implement them successfully (Section 11.2). The regulator's institutional strength can constitute part of the required market infrastructure, such as its expertise and a reputation for operational professionalism and trustworthiness (Section 7.6).

The regulator 'holds the ring' for spectrum auctions, but many other public and private players are involved. In this sense, it can be seen as co-creating public value along with other participants. Scholars may be involved as expert advisers, such as auction theorists and computer scientists. Stakeholders for key public policy concerns, like mobile coverage ambitions, include the government and civil society. Private companies are integral to the process as market participants. The way they bid in auctions represents their self-interest, often drawing on prior experience across multiple countries. They also use the spectrum to deliver mobile telephone and data services valued by consumers. For our purposes, therefore, a useful angle is four leadership roles for collaborative innovation, which can be taken on by the same or different actors: sponsors, champions, catalysts, and implementers.[11]

The first role is sponsors who have authority, legitimacy, and resources. For the auction itself, the regulator has legal authority, and its reputation affects its legitimacy (Section 7.6). But for some activities, it may be the government who also acts as a sponsor. A specific example is to obtain the spectrum to award, whether the government is the source of the spectrum (as for the 2018 auction) or it provides financial resources to fund the costs of clearance of existing users when there is a change of use (Section 6.1). More broadly, for issues of public sector revenue, including the monies generated by auctions, the finance ministry has authority (Section 5.1). Government departments can also be in the role of sponsor where broader public values are at stake, such as universal mobile coverage (Section 5.3).

A second role for collaborative innovation is champions with informal authority, who mobilise the capacities of their organisation to convene, organise, facilitate, and energise the collaboration process. The regulator interfaces with a range of stakeholders in government, the private sector, and academia. It could be to champion pioneering practical application of innovative auction formats, engaging with scholars to appreciate their characteristics (Section 3.3). Or it could be explaining their relevance and merits to policymakers and potential bidders (with risks of litigation). Internal experts within the regulator can play a valuable bridging function between scholars and policymakers (Section 5.1).

A third role is catalysts who create an appropriate disturbance to get participants to think 'out of the box'. Auction theorists can be catalysts, bringing valuable new ideas from the pages of academic journals to practical application, often through themselves being experts advising the companies bidding or the regulator designing the auction. They may develop enhancements or new auction formats in response to observed difficulties for bidders to express their preferences or to unforeseen bidding behaviour (Section 3.3).

The last role is implementers to get things done as visionaries, connecting big ideas with new norms. Spectrum auctions are implemented by the regulator. There is sometimes a trade-off between risk and

reward, but there can be benefits from a bold approach of learning and well-judged innovation. Sometimes the government can be an implementer, such as when taking advantage of the benefits of direct procurement to extend mobile coverage. Mobile operators can also be implementers for social and public value, delivering benefits to citizens where they take on and comply with coverage obligations.

The next two subsections explore the two important differences for spectrum auctions in the idea of public value compared to social value (economic efficiency). Public value takes account of a much broader set of values and includes the nature of decision-making processes. Public value looms large when discussing universal mobile coverage and decision-making roles and processes in Chapter 5, while economic efficiency is central to much of the analysis in Part II of the book such as the application of auction theory in Chapters 7 and 8.

Broader values

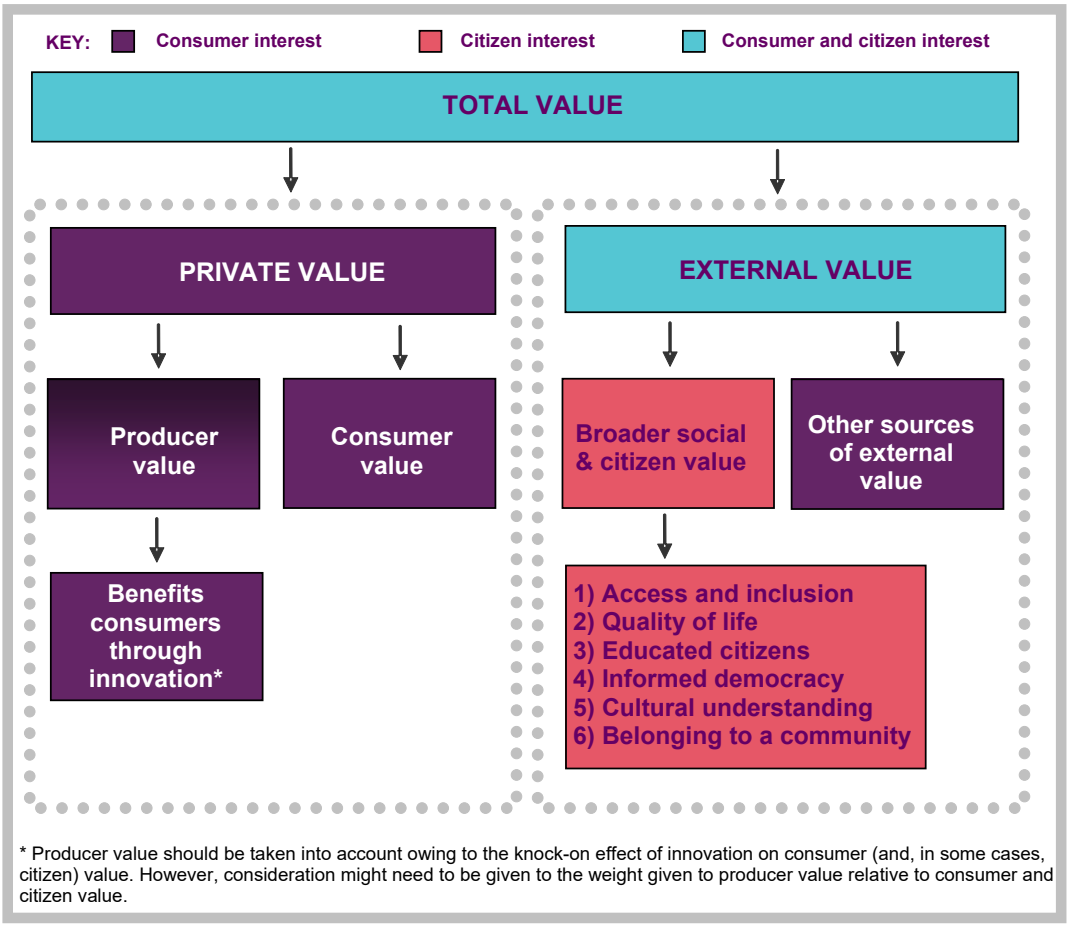
Economic efficiency is limited in the types of values it incorporates in social value, compared to the wider scope of public value. Broader values include, amongst many others, social cohesion, protection of minorities, accountability, integrity, equity, justice, and responsiveness.[12] An example of how some of these vital values for public policy can be embraced alongside the building blocks of economic efficiency is Ofcom's 'total value framework' in Figure 4.1. The private and external value elements in purple, labelled as 'Consumer interest', reflect economic efficiency. The framework also includes 'Citizen interest' through 'broader social and citizen value', capturing aspects of public value which are especially important, like informed democracy and belonging to a community, when developing policies in areas such as public service broadcasting or universal mobile coverage.[13]

The approach set out in Section 3.1 presented market failure as the rationale for intervention in markets. Some proponents of the public-value approach object to framing the analysis in this way as unduly limiting the scope for the public sector, presenting government intervention only as a 'residual category or an issue of technical efficiency in pricing structures'.[14] The more inclusive view of what constitutes the desired outcome for society embodied in the total value framework in Figure 4.1 can bring these two perspectives closer together, while maintaining the analytical rigour of market failure analysis. There are examples of this approach being implemented in spectrum policy and auctions.[15] For example, when assessing the benefits of improving mobile coverage through obligations in an auction in 2018, the UK regulator described broader social value as capturing:

> the benefit to citizens and society due to social goods that are enjoyed by most or all people in society, typically irrespective of income. Social goods that give rise to broader social value potentially include democratic freedoms, equality, tolerance of minorities, and other aspects of social capital and physical security.[16]

The broader social benefits of improved rural coverage were included in the qualitative analysis of the regulator's impact assessment. Examples were explicit analysis of social capital, sustainability of rural communities, and improved healthcare. Earlier research sought to understand broader social value generated by various services, including television and mobile broadband, through a range of quantitative and qualitative techniques asking people to distinguish between personal and societal benefits.[17] This research provided evidence of the significance placed by citizens on public value due to universal coverage of mobile broadband, regardless of whether people themselves lived in rural areas with patchy coverage or in well-served urban areas.[18]

Figure 4.1. Total value framework including broader social value



Source: Figure 4 in Ofcom (2007b), p.28. Copyright: Ofcom.

The value of this analytical approach, including a breadth of values when judging market failure, is to bring both the economic and public value perspectives within the same framework instead of separate conversations talking across but not with each other. The tension between values can present a challenge to make this inclusive approach work. But, when successful, the benefit of bridging different world views is a more connected and fruitful policy debate.

Rational-comprehensive decisions and muddling through

A second way in which public value is broader than economic efficiency is that it encompasses behaviour and the validity of decision-making processes. The strategic triangle for public value includes political sustainability in the authorising environment, as well as a valuable policy outcome and operational feasibility. Key market design principles matter for spectrum auction practitioners, but

effective public managers need also to be influential in policymaking, not just narrow technocratic experts. Some of the implications of this difference can be illustrated by drawing the distinction between two types of decision-making: the rational-comprehensive method of market design experts, and the pragmatic incrementalism or 'muddling through' (a label used purely descriptively without pejorative intent) often practised by public managers. In simple terms, the rational-comprehensive approach is a thorough analysis (from the root) to assess the most appropriate means to achieve clearly specified objectives, often relying heavily on underlying theory. In contrast, muddling through involves incrementalism of successive limited comparisons (branch, not root), where means and ends are not distinct, and acceptable outcomes are sought through consensus building and bargaining, taking a pragmatic approach.[19]

Although incrementalism is a key part of muddling through, the complete model contains additional elements, illustrated in the more granular comparison with the rational-comprehensive approach in Figure 4.2. Identifying well-defined objectives is the starting point for rational-comprehensive analysis, but objectives are not distinct from one another in the muddling-through model. Good policy is assessed under the rational-comprehensive approach as the most appropriate means to generate identified ends. In contrast, means and ends are not considered to be distinct when muddling through, and good policy just means achieving consensus – for example, alternative policies embody different trade-offs between values, so that it is only reaching agreement on the policy that crystallises the relevant weight on different objectives. The extent of analysis is another source of difference, whether comprehensive or instead drastically limited for muddling through. The models also differ in the importance of theory, which rational-comprehensive analysis relies on heavily, but its use is greatly reduced in the muddling-through approach. The full-blown versions of both models are quite extreme, and in reality are more usually practised in modulated form. For instance, the rational-comprehensive style of analysis in practice may just assess the main options instead of a fully comprehensive set. Or decision-making with key elements of muddling through may still judge outcomes through an indication of desired ends, even if they are not precisely formulated, and not solely on the basis of achieving consensus. Also, practical decision-making can share features of both models, and the primary approach can vary through the life cycle. Spectrum auctions typically involve a lengthy

Figure 4.2. Comparison of decision-making models: rational-comprehensive and muddling through

	Rational-comprehensive (root)	Muddling through (branch)
Objectives	Objectives or values are well-defined.	Objectives are not distinct from one another.
Means and ends	Ends are identified, then means to achieve them are assessed.	Means and ends are not distinct.
Good policy	Policy is the appropriate means to achieve the desired ends.	Relevant people agree with the policy (consensus).
Analysis	Analysis is comprehensive.	Analysis is incremental from the status quo and drastically limited, ignoring important outcomes, options, and values.
Theory	Theory is often heavily relied on.	The reliance on theory is greatly reduced or eliminated.

Source: Author from Lindblom (1959).

process, allowing plenty of time for evolution – for example, policy development for each of the UK's high-stakes auctions extended over significantly more than a year.

The market design analysis for an auction is in the rational-comprehensive mould. It starts from a clear statement of auction objectives. It then proceeds through a detailed assessment of design issues that draws heavily from auction theory. Alternatives are considered before reaching a decision on the most appropriate auction design in the circumstances. Much regulatory decision-making follows this analytical procedure. The *raison d'être* and reputation of independent economic regulators is to make reasoned, evidence-based decisions.

Muddling through can play several roles in the analysis. Section 5.1 shows how an incrementalist approach is sometimes used for auction design decisions, starting not with a blank sheet of paper to decide what is best suited to the circumstances, but tweaking a pre-established design. One example is when conditions were sufficiently similar in the UK between one auction in 2018 and the next in 2021. However, there are also other examples of embarrassing consequences in Finland and Portugal when the regulator did not utilise sufficient expertise to judge the consequences of incremental modifications. A second use of incrementalism was described in the wider process of auction design over time in Section 3.2, involving both evolutionary and more radical changes. There are elements of incrementalism in the path dependence and the adjustment to feedback from prior auction experiences.

A third role is that public policy decision-making processes often involve consensus and bargaining. Experts can increase their influence by recognising that the rational-comprehensive approach from which they draw their technical expertise is not the whole story. To be effective, the market design expert must also engage in muddling-through processes of bounded rationality where trustworthiness, reputation, and communications skills come to the fore to build consensus, and biases in human decision-making can be on display. Much analysis of behavioural insights is applied to individuals as consumers, whereas the focus here is on how behavioural biases affect decisions by public organisations, so-called behavioural public administration (or how biases affect private companies, such as providing a possible reason for overbidding in the UK's 2000 auction).[20] Within the regulator, senior managers and decision-makers need to be armed with the understanding to make informed judgements, when obvious or hidden complexities can create biases of under-confidence in CCAs or overconfidence in SMRAs, respectively (Section 5.1). Salience of coverage obligation headlines and limited attention on complex engineering details that affect the realised mobile experience for consumers present risks of regulatory failures (Section 5.3). A different type of adaptation is to the demands of the legal arena as an expert witness to assist the court – a role that I have undertaken – shedding light not heat on the matters in dispute (Section 5.4).

4.2 Regulatory decision-making

This section explains conceptual underpinnings for regulatory decision-making (drawing on the UK experience), including independence, accountability, and reputation management, as well as the coordination challenges professional skill groups face within the regulator.

Regulatory independence and reputation management

The regulator that designs and runs the auction is either part of a political ministry or an independent agency. Regulatory independence, whether formal and based on statute or informal 'rules of the

game', can be a matter of degree.[21] For instance, there is evidence of UK regulators becoming more responsive to political concerns over time.[22] There can be a number of reasons to structure a regime that has decisions being made by an independent agency, such as specialist expertise for efficient implementation, policy independence from political influence, credible commitment to consistent decision-making over a longer time horizon than many political decisions, and trading off various types of transaction cost (such as political decision-making, commitment, agency, and uncertainty).[23] Another possible reason is to shift blame from politicians to agencies.[24] Blame shifting is not always successful in the context of spectrum auctions, when the revenue raised is significant for public coffers and tends to dominate the media coverage. Section 5.1 tells the story of criticism that revenue generated by the UK's 2013 auction fell short of expectations, which was a case of a blame 'boomerang' back to politicians, even though the auction was designed and implemented by the independent regulator.

A stylised characterisation of the regulator's decision-making structure is that much of the work is conducted by a project team composed of multiple professional skill groups. These include internal experts in auction design, competition assessment (antitrust analysis), spectrum engineering, information security etc. In addition, external expert advisers, such as scholars or consultants, may be involved. There are also decision-makers and senior management who are concerned about the positioning of the organisation in the public sphere and managing its reputation as well as having in mind the focused objectives of the auction. A good reputation can strengthen regulatory autonomy and assist in weathering storms from hostile stakeholders, which can include politicians, private sector companies, or the media. The regulator sometimes needs to navigate choppy waters, such as avoiding blame for revenue being below expectations or perceptions of money being left on the table (Section 5.1). Reputations of public organisations have multiple dimensions, such as performative, moral, procedural, and technical.[25] These are all relevant to spectrum auctions to the extent that the regulator's reputation can be classified as part of the infrastructure of successful markets (Section 7.6). The performative dimension of reputation relates to the regulator's competence and effectiveness, in both designing and implementing auctions. The moral aspect includes honesty, such as running the auction with integrity and impartiality without fear or favour. Procedural considerations mean following the auction rules and accepted norms so the process is seen to be fair. The technical dimension is about the regulator's skills and capability, such as provided by internal and external experts.

Mechanisms of accountability as required by statute and undertaken voluntarily can strengthen the regulator's reputation, especially because it lacks direct democratic legitimacy.[26] This can explain a common practice of regulators to engage in broader and deeper consultation than the minimum required by law.[27] Another type of accountability is that regulatory decisions can be appealed to the courts – it is not unusual for operators to initiate litigation, and threats to do so are even more common. Complaints can be about design rules, such as competition measures which are generally controversial because spectrum caps and reservation have differential effects on operators. As an example, the caps in the UK's 2018 auction placed limits on the bids that could be made by one operator (EE), but imposed little restriction on other firms. Section 5.4 examines the litigation of spectrum caps that occurred in advance of this auction, focusing on the role of the expert.

There are stark contrasts between the regulator's degrees of control over different parts of the auction process. During the policymaking phase the regulator makes decisions within its remit (although for issues affected by litigation, judgment shifts to the courts). When implementing the auction, the regulator specifies the procedures to be followed, such as the application process for companies to participate in the auction. It provides the bidding software (usually procured from specialised suppliers), and it sets price increments and the schedule of rounds per day (Section 11.2). But it is operators that determine the outcome through their bids. Being inside the regulator's auction room can, therefore,

be a rewarding or fraught experience, waiting to see if the carefully chosen design will pay dividends, and powerless if it does not.

Coordination between skill groups within the regulator

The regulators' decision-makers are assisted by the multidisciplinary project team. To work well, the team needs to coordinate contributions from the constituent skill groups, each of which tends to come at the issues from a different perspective, reflecting its professional norms and mode of analysis. For example, assessment of the downstream competition effects of spectrum auctions can be especially dependent on collaboration between a range of professional skill groups. Standard antitrust reflects a confluence between legal and economic analysis, and the outcome of competition analysis for spectrum auctions further relies on deep understanding of regulatory policy and spectrum engineering. This can generate powerful benefits of 'positive coordination' to realise synergies from team-working. But there are also risks of tensions. When the dynamic does not work well, it is manifest in miscommunication, frictions, disagreements, and failure to realise synergies. The team can devolve into 'negative coordination' where, to avoid conflict, the outcome is constrained by groups' self-interest (such as threat or exercise of vetoes).[28] A contributory feature can be the selective perception of specialised skill groups, failing to see how their analysis interacts with others' work. Groups can also have blind spots that lead people to revert to previously established approaches instead of seeking collaborative innovation.[29] They can also seek to protect their autonomy or 'turf'.[30]

We can analyse the relationship between skill groups by combining ideas about coordination and motivation, and adapting to this context several concepts also deployed in Part II to investigate auction design issues. Effective collaboration can achieve synergies where the output of the whole team delivers more than the sum of the individual parts (analysed for spectrum valuations in Section 8.2). We can also think of different skill groups needing to 'trade' with each other to achieve the desired outcome, with the mutual gains providing incentives if barriers to trade are low enough (in an analogy with the 'Coase theorem' used in Section 6.2 to analyse spectrum licensing). The applicable decision-making process has elements of the bargaining aspect of muddling through, within an overarching more rational-comprehensive analysis of the substance of the competition assessment itself.

The interdependence of the work of professional skill groups means they can be characterised as being able to impose externalities or spillover effects on each other. The externalities can be either positive (consistent with synergies) or negative, such as failing to identify and clearly communicate prerequisite analysis that another skill group needs. For example, the economic analysis needs to be framed in terms of the relevant legal duties and tests, or the construction of an engineering model changes with the policy question it is intended to address. The trading or exchange between skill groups to internalise these externalities is non-monetary and depends on overcoming barriers or 'transactions costs', such as vetoes by skill groups that are a feature of negative coordination. An example of reducing barriers is the regulator embedding team negotiations within a hierarchical structure, with senior management expecting or mandating agreement (consensus) between the skill groups.[31] Other barriers and the nature of what skill groups exchange depend on their motivations.

There can be a wide range of sources of motivation, as illustrated in Figure 4.3. A stylised distinction in public service motivation is between altruistic 'knights' seeking to help others, and self-interested 'knaves' whose actions can still result in desirable outcomes in the right context.[32] Motivation for knights can be intrinsic, internal to the individual such as obtaining a 'warm glow' from helping others.

Figure 4.3. Sources of motivation: knights and knaves, intrinsic and extrinsic

	Altruistic 'knights'	Self-interested 'knaves'
Intrinsic motivation	Warm glow from helping others	Autonomy and enjoyment of task
Extrinsic motivation	Identity, recognition, and fairness	Financial rewards

Source: Author.

It can also be extrinsic like identifying with the social norms of a professional group or achieving wider recognition.[33] For knaves, the extrinsic motivation through financial reward is less relevant to our current context. But self-interest of autonomy and task enjoyment that social psychologists would classify as intrinsic motivation is very much in play.[34] Professionals such as economists, engineers, or lawyers enjoy interesting analysis in their respective specialisms. It can be a key reason for them to work for a public organisation instead of plying their trade in usually better-paid jobs in the private sector. Engaging these sources of intrinsic and extrinsic motivation can assist incentives for cross-group working, so that each skill group is less likely to perceive the situation as akin to the incentives not to cooperate in the prisoner's dilemma game (Section 3.2).

Collaboration to realise synergies is facilitated by lowering barriers through clear communication of how the work of each skill group contributes to the team's interdependent output. This fosters shared beliefs in working towards a common goal, such as a warm glow from the team delivering an evidence-based competition assessment, ultimately to benefit the public. Other contributory actions include appreciation of each other's perspective and motivation, allowing each skill group enjoyment from its work and bolstering professional identity. Collaboration also benefits from people achieving recognition within the team, more widely in the organisation, and from external stakeholders such as through publication of the analysis. Such low barriers and constructive exchange between skill groups can help the multidisciplinary team dynamic to work well, and achieve positive coordination, maximising joint effectiveness and efficiency.

Therefore, at its worst the multidisciplinary team, like different public organisations that need to coordinate, can suffer from turf wars, with each skill group having an unclear remit, insufficient autonomy, and a weak match between its mission and jurisdiction.[35] At its best, the team can operate as a self-organising network of high-trust relationships.[36]

4.3 Wider lessons for public policy

This chapter shows how the intersection between public value creation and markets can be navigated to bridge narrower, rigorous economic efficiency and wider notions of public value. Both can be embraced – see, for example, the total value framework that includes broader social value (Figure 4.1). Such an *inclusive* analytical approach faces challenges. But it is more constructive than devolving into separate conversations between policymakers and economists that can talk across but not with each other. Taking the example of spectrum auctions, economic efficiency is central to a rational-comprehensive approach to decisions about designing the auction. However, universal mobile coverage is a policy issue that includes an assessment of economic benefits and costs but also brings in broader considerations reflected in public value, such as social capital and sustainability of rural communities.

Markets can fail to deliver public value, but so also can public policy or regulation. Many issues can be fruitfully analysed as a balance between the twin risks of *market* failure and *regulatory* failure. An example is the UK's consistent approach to promote downstream competition through spectrum auctions. Competition measures, such as spectrum caps and reservation, guarded against the market failure risk of weak retail competition. But the choice of specific competition measures also paid attention to the regulatory failure risk of excessive restrictions that would unduly limit the auction outcomes. Experience with spectrum reservation worldwide is mixed, and less successful examples are reported in Section 9.2. However, the UK's track record has been much more positive.

Notes

[1] Cramton (2017).

[2] For a detailed competition assessment of internet advertising markets in the UK, see Competition and Markets Authority (2020).

[3] Joskow (2010).

[4] Changes during Finland's 2013 auction were to limit price reductions when bids were withdrawn and avoid a repetitive pattern of prices going up and down – see DotEcon (2019, p.49). The change during Poland's 2014 auction was to curtail the auction with a final round of sealed bids – see Kuś (2020). During Portugal's 2021 auction changes were made both to the schedule of rounds and the minimum bid increment, as set out in Section 11.2.

[5] Mazzucato and Ryan-Collins (2022, abstract).

[6] Moore (1995, p.20).

[7] Hood (2009, p.8).

[8] Wilson (1989, p.375).

[9] Bennington (2011).

[10] Moore (1995).

[11] Crosby, 't Hart, and Torfing (2017).

[12] Jørgensen and Bozeman (2007). Economists recognise the relevance of many of these values, such as equity and questions of income distribution. The logic often used is that separate policy instruments (such as taxation) can address distributional concerns. But, if (as in practice) they fail to do so fully, distributional concerns can remain relevant.

[13] The labels of consumers and citizens reflect Ofcom's two-pronged principal statutory duty to further the interests of both 'citizens in relation to communications matters' and 'consumers in relevant markets, where appropriate by promoting competition' – Communications Act (2003, section 3(1)).

[14] Bozeman (2002, p.150).

[15] Barwise et al. (2015).

[16] Ofcom (2018b, paragraph A11.57).

[17] Market research methods included conjoint, chip allocation, Gabor-Granger, attitudinal, and deliberative research — see Ofcom (2007b, section 7 and annex 2), and Ofcom (2006b).

[18] Ofcom (2007b, paragraph A2.283).

[19] Lindblom (1959). For a critique, see Pal (2011).

[20] Battaglio et al. (2019).

[21] Stern (1997).

[22] Koop and Lodge (2020).

[23] Levy and Spiller (1996), and Horn (1995).

[24] Hood (2002).

[25] Carpenter and Krause (2012).

[26] For an overview of the balance between democratic accountability and independence in regulators and other 'non-majoritarian institutions', see Bovens and Schillemans (2020).

[27] Busuioc and Lodge (2016).

[28] Scharpf (1994).

[29] Wegrich (2019).

[30] Wilson (1989).

[31] Scharpf (1994).

[32] Le Grand (2003).

[33] Akerlof and Kranton (2005).

[34] Cerasoli, Nicklin, and Ford (2014).

[35] Wilson (1989).

[36] Scharpf (1994).

References

Note: 🔓 means an open access publication.

Akerlof, George and Kranton, Rachel (2005) 'Identity and the Economics of Organizations', *Journal of Economic Perspectives*, vol. 19, no. 1, pp.9–32. https://doi.org/10.1257/0895330053147930 🔓

Barwise, Patrick; Cave, Martin; Culham, Peter; Lavender, Anthony; Pratt, Neil; and Tambini, Damian (2015) 'Incorporating Social Value into Spectrum Allocation Decisions', Report to Department for Culture, Media & Sport, November. https://perma.cc/BAE4-R8FD 🔓

Battaglio, Paul; Belardinelli, Paolo; Bellé, Nicola; and Cantarelli, Paola (2019) 'Behavioral Public Administration ad fontes: A Synthesis of Research on Bounded Rationality, Cognitive Biases, and Nudging in Public Organizations', *Public Administration Review*, vol. 79, no. 3, pp.304–20. https://doi.org/10.1111/PUAR.12994

Bennington, John (2011) 'From Private Choice to Public Value?', in Bennington, John and Moore, Mark (eds), *Public Value: Theory and Practice*, Palgrave Macmillan: 31–51.

Bovens, Mark and Schillemans, Thoma (2020) 'Non-majoritarian Institutions and Representation' in Rohrschneider, Robert and Thomassen, Jacques (eds), *The Oxford Handbook of Political Representation in Liberal Democracies*, Oxford: Oxford Handbooks, Chapter 26, pp.510–25. https://doi.org/10.1093/oxfordhb/9780198825081.013.26

Bozeman, Barry (2002) 'Public Value Failure: When Efficient Markets May Not Do', *Public Administration Review*, vol. 62, no. 2, pp.145–61. https://doi.org/10.1111/0033-3352.00165

Busuioc, Madalina and Lodge, Martin (2016) 'The Reputational Basis of Public Accountability', *Governance: An International Journal of Policy, Administration, and Institutions*, vol. 29, no. 2, pp.247–63. https://doi.org/10.1111/gove.12161

Carpenter, Daniel and Krause, George (2012) 'Reputation and Public Administration', *Public Administration Review*, vol. 72, no. 1, pp.26–32. https://doi.org/10.1111/j.1540-6210.2011.02506.x

Cerasoli, Christopher; Nicklin, Jessica; and Ford, Michael (2014) 'Intrinsic Motivation and Extrinsic Incentives Jointly Predict Performance: A 40-Year Meta-Analysis', *Psychological Bulletin*, vol. 140, no. 4, pp.980–1008. http://doi.org/10.1037/a0035661

Communications Act (2003), section 3. https://www.legislation.gov.uk/ukpga/2003/21/section/3

Competition and Markets Authority (2020) 'Online platforms and digital advertising', Market study final report, 1 July. https://perma.cc/Y328-RD8U

Cramton, Peter (2017) 'Electricity Market Design', *Oxford Review of Economic Policy*, vol. 33, no. 4, pp.589–612. https://doi.org/10.1093/oxrep/grx041

Crosby, Barbara; 't Hart, Paul; and Torfing, Jacob (2017) 'Public Value Creation through Collaborative Innovation', *Public Management Review*, vol. 19, no. 5, pp.655–69. https://doi.org/10.1080/14719037.2016.1192165

DotEcon (2019) 'Recommended auction model for the award of 700, 1400 and 2100 MHz spectrum', Prepared for the Dutch Ministry of Economic Affairs, July. https://perma.cc/J7RR-82R3

Hood, Christopher (2002) 'The Risk Game and the Blame Game', *Government and Opposition*, vol. 37, no. 1, pp.15–37. https://doi.org/10.1111/1477-7053.00085

Hood, Christopher (2009) 'Public Management: The Word, the Movement, the Science', Chapter 1 in Ferlie, Ewan; Lynn, Laurence; and Pollitt, Christopher (eds), *The Oxford Handbook of Public Management*, online edn, Oxford Academic, 2 September. https://doi.org/10.1093/oxfordhb/9780199226443.003.0002

Horn, Murray (1995) *The Political Economy of Public Administration: Institutional Choice in the Public Sector*, Cambridge: Cambridge University Press.

Jørgensen, Torben Beck and Bozeman, Barry (2007) 'Public Values: An Inventory', *Administration & Society*, vol. 39, no. 3, pp.354–81. https://doi.org/10.1177%2F0095399707300703

Joskow, Paul (2010) 'Market Imperfections versus Regulatory Imperfections', *CESifo DICE Report*, vol. 8, no. 3, pp.3–7. https://perma.cc/U4Y9-JAVV

Koop, Christel and Lodge, Martin (2020) 'British Economic Regulators in an Age of Politicisation: From the Responsible to the Responsive Regulatory State?', *Journal of European Public Policy*, vol. 27, no. 11, pp.1612–35. https://doi.org/10.1080/13501763.2020.1817127

Kuś, Agnieszka (2020) 'Polish Experience from First-Ever Spectrum Auction', *Telecommunications Policy*, vol. 44, no. 7, article 101971. https://doi.org/10.1016/j.telpol.2020.101971

Le Grand, Julian (2003) *Motivation, Agency, and Public Policy*, Oxford: Oxford University Press.

Levy, Brian and Spiller, Pablo (eds) (1996) *Regulations, Institutions, and Commitment: Comparative Studies of Telecommunications*, Cambridge: Cambridge University Press.

Lindblom, Charles (1959) 'The Science of Muddling Through', *Public Administration Review*, vol. 19, no. 2, pp.79–88. https://doi.org/10.2307/973677

Mazzucato, Mariana and Ryan-Collins, Josh (2022) 'Putting Value Creation back into "Public Value": From Market-Fixing to Market-Shaping', *Journal of Economic Policy Reform*. https://doi.org/10.1080/17487870.2022.2053537

Moore, Mark (1995), *Creating Public Value: Strategic Management in Government*, Cambridge, MA: Harvard University Press.

Ofcom (2006b) 'Digital Dividend Review', A report of consumer research conducted for Ofcom by Holden Pearmain and ORC International, Research Document, 19 December. https://perma.cc/P2P2-M4WS

Ofcom (2007b) 'Digital Dividend Review', A statement on our approach to awarding the digital dividend, Statement, 13 December. https://perma.cc/Z5RL-C843, https://perma.cc/ZA8W-YKXG

Ofcom (2018b) 'Award of the 700 MHz and 3.6–3.8 GHz spectrum bands', Consultation, 18 December. https://perma.cc/9H8T-F34C, https://perma.cc/PU4X-MULP

Pal, Leslie (2011) 'Assessing Incrementalism: Formative Assumptions, Contemporary Realities', *Policy and Society*, vol. 30, no. 1, pp.29–39. https://doi.org/10.1016/j.polsoc.2010.12.004

Scharpf, Fritz (1994) 'Games Real Actors Could Play: Positive and Negative Coordination in Embedded Negotiations', *Journal of Theoretical Politics*, vol. 6, no. 1, pp.27–54. https://doi.org/10.1177%2F0951692894006001002

Stern, Jon (1997) 'What Makes an Independent Regulator Independent?', *Business Strategy Review*, vol. 8, no. 2, pp.67–74. https://doi.org/10.1111/1467-8616.00027

Wegrich, Kai (2019) 'The Blindspots of Collaborative Innovation', *Public Management Review*, vol. 21, no. 1, pp.12–20. https://doi.org/10.1080/14719037.2018.1433311

Wilson, James Q (1989) *Bureaucracy: What Government Agencies Do and Why They Do It*, New York: Basic Books.