Governing by carrot and stick: A genealogy of the incentive

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In the previous chapter I showed how mechanism design theory developed out of a debate about capitalism and socialism as rival economic systems and how the theory freed that debate from its ideological connotations and verbalism. In mechanism design theory, the basic problem became that of constructing central allocation mechanisms in economic environments with decentralized information. The subsequent introduction of self-interested and strategic behavior on the part of the participants pushed earlier issues of communication to the side. The emphasis was now on the nature of the game that individuals played with each other and with the central coordinator. Individuals were characterized as information processors who tried to secure the best possible outcome for themselves. Their self-interestedness necessitated the use of incentives as an inducement for them to reveal their true characteristics to the coordinator. This development in economics led finally to the constitution of information asymmetry as a major governmental problem and the incentive scheme as the proposed solution.

For all their theoretical bickering and formalism, the socialist calculation
debate and mechanism design theory were largely a matter of armchair proposals. Although Oskar Lange returned to Poland to assist the communist government in 1947, that was as far as the intertwining of power and knowledge went. The return to practical problems of government came later and marked the final step in the formation of a new governmentality. The initial displacement of the problem of government was reversed in this move toward concreteness. Participants in the socialist calculation debate had lifted the governmental problem from the level of organizations to that of the economy. Their end point was the identification of a link between obtaining information and providing incentives in the design of allocation mechanisms for the economy at large. Now, however, the challenge became that of localizing the information-incentive nexus in a wider range of relationships than that of central coordinator and peripheral participants—including those relationships that were localized in the organizations economists had earlier abstracted from. The articulation of these additional relationships of power became the central concern of principal-agent theory—also known as 'the economics of incentives'. More so than Hurwicz’s side remark on the real-world issues that could be addressed with mechanism design theory, principal-agent theorists made explicit how information asymmetry frustrated the attempts of principals to govern self-interested agents in the public and private sectors. They did so via concepts such as ‘moral hazard’ and ‘adverse selection’, which described specific classes of situations characterized by specific types of information asymmetry. Each class of situations was then said to encompass real-life problems encountered in insurance, management and market regulation (section 6.1). The link forged between abstract economic theorizing and concrete relationships of power paved the way for policy-oriented economists, political scientists and government officials to bring the information-incentive nexus closer to the practices of public sector government. In doing so, the earlier mathematical sophistication was dropped and information asymmetry was now simply conceived of as a feature of reality that permeated the interactions between governor and governed (section 6.2).

I will address the interpretation of political reality in principal-agent terms using a case study of the role of economic expertise in political democracies. The economics of incentives, as it emerged in the 1970s, was a key resource for economists of the Netherlands Bureau for Economic Policy Analysis (CPB) in articulating specific problems of information asymmetry in education as well as in identifying a particular set of instruments for solving those problems. Curiously, the instruments proposed bore a strong resemblance to earlier techniques of
power developed by the mechanical engineers. Wage incentives and the ranking of performance made their reappearance, but this time as solutions to a new governmental problematic (section 6.3). In due time, performance pay came to be regarded as the most promising technique for increasing transparency in education and improving the test scores of students. CPB economists promoted both on the basis of disparate evidence from experiments conducted in other countries than the Netherlands. Yet before such evidence could ‘speak’ in a clear and univocal way, the CPB had to deal with the many uncertainties with which both the experiments and the subsequent generalizations were surrounded (section 6.4). After they merged a small range of local and ambiguous experimental results into a stable positive effect, there was still the matter of how to sell this policy measure politically. The CPB could draw strength from a long tradition of providing macroeconomic advice within the Dutch political field. In extending its expertise to new areas such as education, moreover, it had a unique medium at its disposal: the economic assessment of the campaign platforms of rival political parties. My analysis of succeeding CPB assessments shows that the political support for performance pay grew as the expectations with regard to its beneficial economic effects ran higher (section 6.5).

6.1 The move toward concreteness

The localization of the information-incentive nexus in more mundane relationships of power became the core concern of principal-agent theory; a branch of economic science that was also known as ‘the economics of incentives’ (Hammond 1979, 181; Laffont and Martimort 2002). In principal-agent theory, the central planner or central coordinator was replaced by the ‘principal’ as the figure who depended on the behavior of others for the achievement of her goals. While all those on whom she depended—formerly known as the plant managers, consumers or participants to the mechanism—were referred to as ‘agents’. Although the terms changed slightly, the earlier information-incentive nexus is clearly recognizable in principal-agent theory: the problems addressed are those that occur “when there is imperfect information, either concerning what action the agent has undertaken or should undertake” (Stiglitz 1987, 967). In this economic theory, the principal has well-defined objectives but can only achieve these objectives with the information provided or the actions performed by the agents. The agents
in question always act to maximize their own expected utility and are therefore not a priori inclined to do or say what the principal wants (Laffont and Maskin 1983, 31–32). The possible divergence of goals and the presence of information asymmetry necessitate the introduction of incentives. Because the agent could always opt out if the offer were not attractive enough, a principal needed an incentive scheme that would induce agents to reveal the information or behavior they hid from her and to make their goals compatible with her own.

Principal-agent theory was initially only an academic endeavor, yet in it, the role of incentives was already more concrete than in mechanism design theories where incentives simply “provide[d] a framework in which to analyze such diverse topics as auctions, central planning, regulation of monopoly, transfer pricing, capital budgeting, and public enterprise management” (Ledyard 1987, 743). Such concreteness was achieved by assigning the topics that were analyzable in principal-agent terms to a small number of relatively stable classes of relationships. These classes were distinguishable by the different kinds of information asymmetry that occurred and became known under their own distinctive labels: moral hazard, adverse selection, costly verification (Laffont and Martimort 2002; Dixit 2002, 697–701). Each type of problem was then coupled to a range of heterogeneous examples drawn from real life.

The identification of moral hazard as an economic problem offers a good opportunity for articulating the emergence of a class of relationships where information asymmetry was said to occur. The term was initially used to describe a practical problem that confronted nineteenth-century insurance companies. These companies had to find a way to keep “bad characters” from purchasing their insurance policies and minimize a policy holder’s “temptation” to engage in bad actions in order to avoid bankruptcy (Baker 1996, 250–252). Kenneth Arrow introduced the concept of moral hazard into economics in the early 1960s when he published his study of the US health care sector (1963, 961–962). In the discussion that followed Arrow’s publication, the local insurance problem was transformed into a general economic problem such that moral hazard was now said to be present in “all relationships involving risk” (Baker 1996, 241, 272–275). Moreover the moral connotations of the concept—present in notions of character and temptation—were no longer considered to be part of it. Moral hazard could be explained in terms of the self-interestedness and rationality of the insured: the rational and self-interested agent did not minimize risks because he was compensated for any eventual loss (Baker 1996, 268). The term now covered all relationships where the agent did not face the consequences of his actions.
Because the risks of actions performed by the agent did not weigh directly on himself but on the principal instead, the former might become more risk prone than the latter would like to see.

After economists began to use the term to describe a general problem of human action, moral hazard was subsequently classified as a special case within the general problem of information asymmetry. The informational problem in situations of moral hazard was that of 'hidden action' which could be discerned in many places (Laffont and Martimort 2002, 45). The relationship between an employer and her employees was deemed a classic locus of moral-hazard problems. The former could not constantly watch over the actions performed by the latter; instead she had to find a way to ensure that the actions hidden from her still contributed to her own goals. Therefore, an incentive scheme was required to make the goals pursued by the employees compatible with those pursued by the employer (Stiglitz 1987). The problem of moral hazard was also said to occur in the relationship between shareholders and managers of a firm quoted on the stock exchange. The shareholders owned part of the firm but were not in a position to monitor the actions of the managers on the work floor. Again, with the right kind of performance-based incentive scheme, the interests of the managers could be kept in line with the interests of the shareholders (Hindriks and Myles 2006, 255). As a final example, the relationship between the state and the banking sector has also been characterized as one permeated by moral hazards. In the recent financial crisis, moral hazard was staged as “central to the controversy over the causes of the present crisis” and was said to have “played a central role in the events leading up to the crisis” (Dowd 2009, 141). Banks could take enormous risks because they knew that the state would eventually bail them out if things went truly awry. Because the banks’ expectation of state intervention was the core moral-hazard problem here, the proposed solution has been to let banks face their own risks again: “150 years of state intervention has to be rolled back” (Dowd 2009, 163). Whether the principal was concerned with employees, managers or banks, the general purpose of the techniques to counter moral hazard was the same: to make sure that the agents in question were confronted with the effects of their own (in) action. If the consequences of taking risks would be felt by the agents, they would have an incentive to take responsibility for their actions.

Another concept that was connected to a particular class of informational problems was that of ‘adverse selection’. Adverse selection was said to have occurred in situations in which ‘bad’ agents chose to buy or sell a certain good or service and that action eventually drove out ‘good’ agents. In information asymmetric
terms, adverse selection occurs when agents are in a position to hide something they know regarding their own characteristics or those of the product they offer. Because it is difficult for others to gain access to such private information, adverse selection is also known as the problem of ‘hidden knowledge’ (Laffont and Martimort 2002, 86). Again, the principal has to offer (monetary) incentives to elicit truthful information from the agents.

Just like the concept of moral hazard, the actual constitution of adverse selection as an instance of principal-agent theory was gradual. George Akerlof’s (1970) article on the market for secondhand automobiles, for instance, is now considered to be a classic example of adverse selection in textbook descriptions of principal-agent theory; however, the article was itself not cast in the language of principals and agents. Akerlof’s paper began with the observation that the seller of a secondhand car knew more about the car for sale than did the potential buyer. Consumers were therefore never certain whether they were buying a good car or a car that would soon turn out to be a bad investment—that is, a ‘lemon’. Because of the high risk of buying a lemon, consumers were not willing to pay a high price for a used car. As a result, the good cars on the market would find no buyer (because the prices for good cars would be too high) and the average quality of used cars on the market would decrease.

From the market for used cars economists widened the field of adverse-selection problems. The difficulty faced by insurance companies in selecting the right kind of client for the right policy stands out as exemplary in the literature. In this example, adverse selection became a problem for insurance companies when they could not “distinguish the low-risk consumers from the high-risks” (Hindriks and Myles 2006, 259). The success of an insurance company might be jeopardized if too many risk prone clients—that is, clients with a higher probability of having accidents—were able to buy a policy developed for those who are averse to risks. Economists also suspected adverse selection to play a part in the employment of minorities on the labor market. Employers might refuse to hire members from minority groups because, compared to the majority group, there were relatively few qualified individuals. As a consequence of the rational behavior of the employers, the minority individuals who had potential were excluded from participation in the labor market (Akerlof 1970, 494–495). Other instances of adverse selection were discerned in the market for credit in underdeveloped countries, the relationship between patient and doctor, and the relationship between the electorate and politicians (Akerlof 1970, 497–499; Hindriks and Myles 2006, 254).
The techniques to counter adverse selection get to the heart of the problem. When knowledge is hidden, one has to design a mechanism to reveal it. The principal who lacked essential information about the characteristics of the agents could use screening devices to distinguish agents from one another. Insurance companies, for instance, have developed a menu of options that encourage different kinds of agents to choose particular policies. In this way, a high-risk client would have to pay a higher monthly premium for full coverage with a low deductible (Hindriks and Myles 2006, 261–262). Techniques of screening are therefore used by the lesser-informed party to reveal the knowledge that is hidden from them by those that are better informed. Techniques of signaling, in contrast, are used by the better informed to convey information to those who are less informed. In the restaurant business, for instance, a principal—in this case: a consumer—can have a hard time selecting the right agent. In an unfamiliar city you often don’t know which restaurants are really bad. Luckily, you can always go to the McDonald’s and know what to expect because they have completely standardized their products. The consumer’s (principal) search for a good meal (sic) is thus an incentive to restaurant chains (agent) to opt for the standardization of their products in order to signal constant quality (Akerlof 1970, 500; Pindyck and Rubinfeld 2005, 618). Besides brand names, warranties can equally be considered a method for counteracting the effects of hidden knowledge on the market. Without such signals consumers, who are less informed about a product than producers, might otherwise refrain from consuming. This behavior on the part of the principal can thus be an incentive for a dealer in used cars to guarantee free repairs for a certain period of time in order to signal the quality of the cars for sale (Akerlof 1970, 499; Pindyck and Rubinfeld 2005, 623).

6.2 The move toward public policy

The general framework of principal-agent theory and the stabilized concepts it encompassed eventually trickled down to a broader academic audience. Information asymmetry and incentives, for instance, became standard subjects in microeconomics textbooks. The principal-agent problem and the concept of incentive compatibility were now part of the standard toolkit of economists, generally imparted to students in their first years of study (Mookherjee 2008, 240). In microeconomic courses undergraduate students faced problems and
exercises involving incentive design in private and public organizations as did graduate students taking advanced courses in public economics (cf. Pindyck and Rubinfeld 2005, 613; Hindriks and Myles 2006, 251–298).

At about the same time that the theory of principal and agent became part of the mainstream curriculum, economists working on information and incentives began to receive the highest forms of recognition. In 1996 James Mirrlees and William Vickrey received the Sveriges Riksbank Prize in Economic Science in Memory of Alfred Nobel—often referred to as the Nobel Prize in Economics—“for their fundamental contributions to the economic theory of incentives under asymmetric information”. Five years later, in 2001, the Nobel was awarded to George Akerlof, Michael Spence and George Stiglitz for analyzing markets with asymmetric information. Then in 2007, Leonid Hurwicz, Erik Maskin and Roger Myerson received the Nobel for their work in mechanism design theory (Nobel Prize 1996; 2001; 2007).

Though it was already well-established and revered as a general analytical framework, principal-agent theorists expressed their hope that others would equally “apply this indispensable tool when thinking about society” (Laffont and Martimort 2002, 3). The application of principal-agent theory to society has become especially strong in public economics, in political science and in policy studies (Dixit 2002). Over the past two decades, these policy-oriented scientists have turned it into a cognitive tool for articulating a large number of problems involving information and incentives in the public sector. Principal-agent theory has provided these scientists with a “flexible framework for modelling innumerable variations in institutional arrangements, and comparing their potential for inducing desirable behavior” (Gailmard in press). Next to its flexibility, the framework has also permitted them “to generate rather precise expectations about the effects of different institutional arrangements” because these arrangements “have systematic and predictable consequences” (Strom 2000, 275).

The conceptual tools of principal-agent theory, for instance, would help to understand relationships of delegation in parliamentary democracies. Voters are the ultimate principals who delegate the authority to govern to the agents they have elected in parliament; parliamentary principals, in turn, delegate the practical affairs of government to the agents of the executive branch; and ministers, finally, are principals who delegate the realization of their plans to public servants (Strom 2000, 267). When interpreted in these terms, parliamentary democracy helps to overcome adverse selection in that it offers adequate screening devices for selecting politicians. Political parties are the pillars of parliamentary democracy
and they screen potential candidates for their ability to represent the various social groups that may vote for them. This process increases the chance that the agent (politician) actually serves the interest of the principal (voter). When the screening is not successful, elections can still set things straight; they function as a sanctioning device for politicians who have not behaved as their voters expected (2000, 272). While parliamentary democracy counteracts adverse selection, it simultaneously aggravates problems of moral hazard. Because the principals cannot always monitor the behavior of the agents, all sorts of agency problems are created. How can parliamentarians and government officials to whom we delegate power be held accountable for their (mal)performance? The problems of hidden behavior that can be expected to occur everywhere in the chain of delegation, from the electorate to public servants, lead to issues of accountability and public-service motivation (Gailmard 2010; Gailmard in press).

From a broad academic arena, the economic approach to information and incentives finally began to influence a wider political audience. In an interview with the three 2001 Riksbank Laureates, George Stiglitz acknowledged the influence of the economic theory of incentives on contemporary policy debates. When asked about the practical implementation of their work on asymmetric information, Stiglitz drew from his own experiences as Chief Economic Advisor under President Clinton. One of the big issues on the agenda when he first came to the White House was that of reforming the American health insurance system: “And I remember going to a meeting and just sitting in the back of the room. Others were discussing. And they were talking about moral hazard and adverse selection as the key ideas, the key problems that had to be resolved in reforming the health insurance market” (Stiglitz 2001). As Stiglitz was one of the economists who put these problems on the agenda of economic science, he was pleasantly surprised to hear policy makers use the very same terms to tackle practical problems of reform:

And it gave me a lot of pleasure to see how quickly some of the ideas that we had developed had gone from theoretical research into being taught at graduate school and by this point were just common tools that everybody… You wouldn’t begin a discussion on health insurance reform without the concepts of moral hazard and adverse selection. So in a way they became a toolkit, part of the vocabulary everybody uses… (Stiglitz 2001).
Moral hazard and adverse selection thus traveled from economic theory to policy studies to political practice, binding a new set of theoretical concepts to a new toolkit for analyzing problems of public policy and designing solutions.

The fact that incentive-related concepts became part and parcel of the vocabulary of policy makers suggests that the initial abstractness of mechanism design theory posed no obstacle for its application to mundane social and political practices. In the subsequent sections I will focus on the political role of Dutch economic experts for further evidence of the ease with which economists bridged the gap between economic theories on the one hand and social and political practices on the other. As I discuss below, this by now established problematic of information and incentives became popular at the Netherlands Bureau for Economic Policy Analysis (CPB). The CPB is quite established in the Dutch political field as an institution working at the interface of scientific inquiry and policy advice. The latter is partly given at the behest of central government or political parties and partly on the CPB’s own initiative. When established in 1945, the main task of the CPB was the analysis of economic trends, for which they used quantitative models originally built by econometrist Jan Tinbergen and refined in the decades thereafter (Maas 2010). Although econometric models are still a key feature of the current epistemological authority of the CPB in matters political, a more microeconomic focus on revitalizing the public sector was added to their quantitative assessment of the economy. The economics of incentives was a crucial resource for extending the CPB’s area of expertise. It offered an analytical grid within which to discern a certain number of “weaknesses” in the “organizational and incentive structure” of parts of the public sector (Canton and Webbink 2004, 87) as well as a set of solutions to the problems thus discerned. As a resource, however, principal-agent theory offers only a general outline of power relations. It is up to others to interpret the abstract and indeterminate “theoretical insights into incentives and information” (CPB 2001, 128) and translate them into determinate relationships between individuals and groups in different areas of the public sector. Economists of the CPB began to do just that in a multisector project on incentives for semipublic institutions in 2001. The project culminated in a range of studies on the (lack of) incentives in Dutch health care, police, science and education. In the next three sections I will focus on their studies of primary and secondary education. Through this case study, I will show how principal-agent theory was crucial in helping a policy proposal, advocated by economic experts, become a policy measure that was embraced by political parties and government.
Articulating principals and agents in Dutch education

Over the past decade monetary incentives for education have become a fashionable instrument among policy makers around the world. These policy makers expect that the overall level of education will rise when teachers receive a bonus for increased student performance. The Israeli government was the first to experiment with performance-based pay for teaching personnel. In 2000, it began to reward individuals and teams of the participating schools when they managed to raise student scores on matriculation exams. In the United States, several individual states similarly experimented with bonuses in primary and secondary education (Lavy 2009). A nationwide program of performance pay for American teachers was established in 2006; the best-performing teachers would receive performance rewards drawn from the so-called Teacher Incentive Fund. Other countries such as Australia and the UK followed suit. In the Netherlands, the appreciation for and implementation of this particular policy measure came relatively late. A coalition of Liberals and Christian Democrats set 250 million euros aside in 2010 to spend on performance pay over a period of five years (Vrijheid en Verantwoordelijkheid 2010). In line with the Israeli approach, the Dutch government decided to begin with a series of experiments in order to determine what type of bonus would work best. Several schools participated in a pilot study just after the coalition agreement was signed. The results of the pilot study were to be used to help academic economists design experiments that all Dutch schools could participate in. However, that coalition government resigned on the eve of the first round of experiments and performance pay was dropped soon afterwards. The money that had been earmarked for performance pay was instead used by a temporary coalition to meet EU requirements regarding the nation’s budget deficit.

Even though performance pay failed to materialize on the scale envisaged, the route toward the incentivization of teachers makes for an interesting case study in the role of (economic) expertise in political democracy. In particular, it is a further extension of the move toward concrete issues of public policy, which I have elaborated in this chapter. For in the exploration of structural weaknesses in the public sector, CPB economists used principal-agent theory to pinpoint a plethora of information asymmetries. They articulated three principal-agent relationships in primary and secondary education using the model of human interaction that included an unequal distribution of knowledge across different parties (Koning et al. 2004, 83).
First is the relationship between the Ministry of Education and the agencies to which it delegates the task of education. The consequences can be far-reaching when central government lacks the knowledge that is available to the schools on a decentralized level. For if government officials are unable to monitor the relation between the input and output of education, between monetary investment and the improvement in learning, the school can “neglect its duties without being punished” (CPB 2001, 128). In the absence of strong competition between schools and in the presence of information asymmetry, schools have a weak incentive to perform at their best. Thus, two solutions for counteracting this situation were presented by the CPB. First, education inspectors could intervene when schools performance goes below a certain threshold. However, such a traditional policy of threatening to shut down the school if necessary ensured only that minimum standards of performance would be met. Additionally, because inspectors only step in after the fact, it does not prevent poor performance. A more permanent solution was therefore required; one that went to the heart of the problem of information and incentives. The second policy proposal suggested by the CPB was therefore that of a system where the school budget is determined on the basis of performance criteria specified beforehand. In this system, extra money would be given for enhanced student scores, either in the form of additional team rewards or as a lump-sum payment.

Besides the link between the state and its executive bodies, the CPB identified the relationship between parents and schools as one of principal and agent. When we proceed along this line, the parents are the principals who delegate the education of their children to the agent—i.e., school—of their choice. When parents lack sufficient data on the performance of the schools, they are unable to make an optimal decision over the investment in their child’s education. Again, this unequal distribution of knowledge across the parties involved in the exchange means that schools can continue to underperform without facing the consequences of parental-choice behavior. To counter this gap in knowledge, the CPB stressed the need for procedures of accountability. Information on key indicators of school performance should be accessible to parents, preferably in the form of a list that ranks the schools of a city or region. The availability of such a transparent and objective ranking would give parents the opportunity to select the best schools for their children—to “vote with their feet” (Koning et al. 2004, 87, 93). With this procedure in place, schools would face stronger competition for a share in the student population which, in turn, “function[ed] as an additional incentive for schools to perform well” (Canton and Webbink 2004, 15).
Lastly, the CPB discerned a principal-agent relationship within the school itself between management and teachers. Conceived of in this manner, the administration acts as the principal, who delegates the executive tasks of education to individual teachers (agents). Of course, it is likely that their respective objectives and interests overlap. Yet there is at least a possibility that teachers will try to pursue their own ends at the expense of the general benefits of education (Koning et al. 2004, 87). To align the interests of teachers with the goals set out by management, monetary incentives were again presented as the proper solution: because of the lack of information on the situation in the classroom “the principal-agent relation within the school between management and teachers may lead one to consider the introduction of performance pay” (Canton and Webbink 2004, 17).

Questions as to the actual fit of economic theory with educational practice were not raised when CPB economists localized the problem of asymmetrically dispersed information in the relationships between central government, parents, school directors and teachers. Was the access of the inspectorate to schools so insufficient that government should opt for a drastic budgetary reform? Did parents really face difficulties in the choice of a good school because of the lack of information on school performance? Why were there still schools that took their duties seriously in light of the fact that they could all exploit their surplus of information? Finally, what were the alleged personal goals pursued by teachers that were harmful to the public interest of education? For my purposes, the lack of evidence on the actual correlation between problems of information asymmetry and structural problems in the educational field is not an issue; what matters is the fact that economists construed a set of problems in terms of principal-agent theory. Even though such problems might be articulated on the basis of a general governmental problematic of information asymmetry, the exact economic effect of either budgetary reform, the ranking of schools or the introduction of performance pay cannot be. For an assessment of the effectiveness of using these techniques to improve education, I turn from the theoretical results of economics to its (quasi)experimental results in order to show how performance pay for teachers grew to become the most promising policy measure for increasing the economic benefits of education in both primary and secondary schools.
6.4 Making results converge

At the beginning of the CPB project on incentives in the public sector, only a small range of experimental results were available for assessing the potential relevance of performance pay for Dutch primary and secondary education. Although early CPB papers were concerned with the positive results of the experiments performed in Israel and the United States, the uncertainties with which they were surrounded also received much attention. The economists acknowledged that the relation between incentivizing teachers and enhancing student performance was far from robust and noted the lacunas in the literature about the possible side effects of introducing performance pay. In their role as political advisors, however, CPB economists did not stress the (many) uncertainties that still remained. Instead, the mixed results of the geographically and contextually dispersed experiments were touted as a universal and unequivocal effect on student test scores. This test-score effect was subsequently incorporated into a mathematical model that could be used to predict how incentivizing teachers would affect the gross national product (GNP) in the long term. In this section I will first detail three acknowledged uncertainties about the experiments and then focus on the convergence of the available results into a stable phenomenon where these uncertainties were de facto ruled out.

The first uncertainty involved certain measurement problems. For performance pay to work it was crucial to be able to measure the educational gain brought about by a single teacher or team in a clear and consistent way. Although it seemed easy to work with student test scores, it actually proved quite difficult to measure the exact influence of individual teachers and teams on the output of education (CPB, 2001, 129; Canton and Webbink 2004, 22). The second uncertainty involved possible causes of the results. Even if the results on test scores were accurately measured and they were positive, they could actually be caused by something other than a real improvement in student learning. Two possibilities stand out. On the one hand, teachers may have begun to focus exclusively on teaching their students how to prepare for the test. When ‘teaching to the test’ occurs, performance pay will contribute to the narrow ability to pass certain exams but not to fostering the development of broader skills. On the other hand, and even more extreme, offering teachers a bonus may have encouraged their deliberate manipulation of test scores; for instance, a teacher could improve overall scores by keeping underperforming students out of the test. In such instances of ‘gaming’ the incentive to perform became an incentive to cheat instead. Gaming
and teaching to the test received little or no attention in the experimental literature; when researchers did take notice, they found evidence that such manipulation of the test scores had indeed occurred (Canton and Webbink 2004, 23). Lastly, the third uncertainty was whether the results found were incidental or structural. Due to the fact that these experiments often did not run their proper course—the experiment in Israel, for instance, was terminated prematurely for political reasons—there is no clear way to assess the permanence of the effects (Koning et al. 2004, 94). Besides these three experimental uncertainties, there were other lacunae in the literature regarding the possible side effects of performance pay in education. It was unknown, for instance, what incentives would do to the motivation of teachers. When extrinsic rewards were given a more prominent role than before, harm could be inflicted upon teachers’ intrinsic motivation to teach. Furthermore, there was a risk that differential pay would split the educational field into a set of good schools with teachers who received higher pay and a set of bad schools with teachers who were paid less (CPB 2001, 130–131).

None of these uncertainties and lacunae was really addressed as performance pay gained momentum at the CPB; thus they were still listed when economists began to quantify the economic effects of performance pay (Elk et al. 2011b, 34–35). Yet they were somehow accounted for. In quantifying the effects of incentives in education, the CPB took three distinct steps to bridge the gap between an experiment conducted, say, in a high school in Israel and a prediction of how much value incentivizing teachers will add to the Dutch GNP over many decades—until 2070. First, the results of individual experiments in different countries, each with a different experimental setup, had to be grouped together so as to arrive at a single effect that could be applied to the political intervention discussed here. In reviews of the experimental results, economists calculated that the introduction of monetary incentive had a positive effect on student test scores, which was expressed as a “0.13 standard deviation” (Elk et al. 2011a, 62). This calculated mean effect provided an opportunity to sidestep, in a simple way, the uncertainties and possible side effects of performance pay. To be on the safe side, CPB economists cut the positive effect found in the literature in half, then declared that they had thereby reckoned with the uncertainties and lacunae in the experimental literature. This might seem a small and unimportant gesture, the sort of ad hoc reasoning that is a part of everyday science, yet it was crucial nevertheless. For what were in fact uncertainties about the nature of the experimental findings, now had become methodological uncertainties concerning a safe estimation of the positive effects of performance pay on student test scores. After this intervention,
CPB economists felt secure in treating the instable experimental results as a stable relationship between the introduction of monetary incentives and the increase in student performance (Elk et al. 2011a, 62–65).

With this stabilized positive effect in hand, the second step for the CPB was to estimate the effect of school performance on the future composition of the labor force. To do this they incorporated the test-score effect into a so-called stylized cohort model, developed by the CPB itself (Elk et al. 2011a, 18–21). As the labor force is made up of classes of individuals with different levels of education, a general rise in test scores would generate shifts in the number of people in each cohort. Some people who were likely to obtain only a low-level education before the intervention would be able to move up to the middle ranks, while some who are already at that level would move to the cohort of the highly educated. As a result, more people would receive education for a longer period of time, thereby increasing the total years of education received by the labor force as a whole.

With test scores and cohort effects in place, the third step was to establish a link between the number of years of education received and economic productivity. In line with neoclassical growth theory, the CPB states that the amount of human capital that an individual has determines his or her productivity. On an aggregate level, an increase in the overall stock of human capital makes for a more productive labor force in the long run. As it is difficult to attach a precise meaning to the notion of a 'stock of human capital', economists often use an available proxy: the average number of years of education that all individuals of a certain country have received. With this correlation, the CPB could show how politicians’ decision to incentivize teachers would cause student test scores to rise; such a rise in test scores would create a change in educational cohorts that resulted in a longer time spent at school; and the increased length of education in turn would make for a more productive population and a higher GNP in the long run. Thus, the gap between the political present and the distant economic future was bridged, and the CPB could substantiate the claim that a policy measure such as performance pay would continue to have positive economic effects until its beneficiaries retired at the age of 65.
6.5  **The politics of performance pay**

In the previous section, I showed how performance pay grew from a possible policy measure containing many imponderables and potential side effects to the most promising measure for reforming Dutch education. Yet even though the convergence of the available experimental results put one of the three solutions to information-related problems center stage, the idea of incentivizing teachers was not yet praised beyond the walls of the CPB. In the first five years after the CPB started to defend its merits, performance pay was discussed by neither any of the political parties nor by teachers and their labor union representatives. Things began to change only when the value of monetary incentives for teachers was incorporated into the economic assessment of the campaign platforms of the political parties.

The practice of calculating the economic effects of the electoral programs started in the mid-eighties, when three parties asked the CPB to assess their plans. Then in 1998 five parties requested the CPB’s analysis of the policy measures they were advocating. In 2003 that number rose to eight. Given the steadily rising support for this procedure from more and more parties, the CPB concluded in 2010 that it had become a veritable institution over the previous decades (CPB and PBL 2010, 12). As an established political-epistemic ritual, representatives of political parties have begun to discuss their plans with CPB economists some months before the elections. Provided with the likely economic effects of a certain measure, the parties can then decide whether they wish to take it aboard or not. Once the party negotiations are brought to a close, economic experts calculate the overall effect of the choices made. The results of these calculations play an important role in the debates that take place the weeks before the elections. Rival political parties attack specific parts of their competitors’ economic assessments while emphasizing the strengths of their own programs.

In analyzing the programs, the CPB splits the consequences of the individual platforms into three separate effects: a ‘budgetary effect’ that details the ways in which the government budget would be affected by the proposed policy measures; a ‘spending effect’ that makes tangible the purchasing power of the Dutch population; and a so-called program or economic effect that accounts for the rise or fall of the gross national product should the specific set of policy measures of one party or another be realized. As the subsequent elaboration on the political valuation of performance pay shows, these calculations were crucial in making the 2070 GNP a part of the political present.
This specific policy measure moved from policy proposal to political reality in the period between 2003 and 2010. In the 2003 performance pay for teachers was already positively evaluated in the discussion papers of the CPB, but it was not yet mentioned in that year’s *Charted Choices* (the title of the report with their calculations of the effects of electoral platforms). In the first version of *Charted Choices* the CPB stuck to the budgetary and spending effects of policy measures for education because “too little is known of the economic effects of, for instance, more education, more security or more infrastructure” (CPB 2003, 9). As the beneficial or detrimental consequences of these measures on the economy at large could not be estimated, the economists refrained from assessing specific policy measures in terms of their influence on GNP. When political parties proposed spending money on, say, the enhancement of the general labor conditions of teachers or on the reduction of the number of dropouts in high schools, the CPB could only show how it would affect the budget of Dutch government. For now, the CPB did not propagate performance pay as a promising measure to take aboard—and no political party did so.

The first attempts to incorporate the economic effects of education, by way of a rough and qualitative classification, came in the version of *Charted Choices* that appeared before the elections of 2006. The CPB classified a specific policy measure as “promising” if there was empirical support for a rise in welfare when it was implemented; it was classified as “not promising” if no such rise in welfare was to be expected or if the benefits of the measure did not outweigh the costs; or it was classified as “remaining” if the effects were simply unknown. Their economic assessment of policy measures was represented by a histogram that showed the amount of money that each party spent on investments in education the CPB considered promising (CPB 2006, 29). Along with other political interventions, such as further training for teachers and funding for preschool education, performance pay belonged to the category of promising measures. For this reason five out of the seven political parties that had requested CPB analysis chose to embrace performance pay in their proposed education program.

Although the CPB’s evaluation of educational investments had been expanded, it was still impossible to quantify the actual benefits of individual policy measures in 2006. This meant that their qualitative assessment was not incorporated into the overall macroeconomic effects of proposed measures. That step was taken in 2010. In possession of an “instrument to portray the quantitative effects of educational policies on (material) wealth” (CPB and PLB 2010, 16), which I discussed in the previous section, the CPB now argued that...
performance pay mattered economically. If political parties chose to embrace the measure, it enhanced their score regarding long-term growth of the GNP; thus most parties added it to their platforms. Seven out of the nine political parties that had requested evaluation of their program promised to invest between 100 and 400 million euros. In running for the title of ‘champion of education’ the Minister of Education, Cultural Affairs and Science at the time, could claim his own Labor Party (PvdA) to be the uncontested winner (Dirks 2010). This was not because their education budget was nominally the highest, but because their investments were simply the most efficient in CPB terms: by 2070 their proposal would have added 4.75 percent to the GNP, leaving behind the Green Party (Groenlinks) with a second place and the Liberal Party (VVD) with a third place, which had 4.25 percent and 4 percent GNP growth, respectively (CPB and PBL 2010, 44).

Even though long-term effects predominated in the calculations at the CPB, it may have been the beneficial short-term effects that made political parties adapt to the CPB’s verdict. Justification for such a strategic interpretation comes from the statements about performance pay found in the campaign platforms themselves—or maybe more so from the absence of such statements. In addition to a set of policy measures presented to the CPB for further analysis at the end of their negotiations, political parties also present their vision for the economy and society in a separate brochure. The almost total silence with regard to the introduction of bonuses in education in the 2010 brochures was striking. Whereas seven out of nine political parties embraced performance pay and gave a specification of the amount of money they were willing to spend on it, only the Dutch Liberal Party (VVD) openly declared itself an advocate of differentiated pay, saying that “a good teacher who proves himself to perform should earn more” (VVD 2010, 16). Four other political parties were completely silent on the matter (Groenlinks 2010; PvdA 2010; D66 2010; CDA 2010). The two remaining parties even lamented the fact that economic terms dominated the discussion over education, saying that “the emphasis is increasingly put on the accountability of schools for their own performances” (SGP 2010, 16) and that “(higher) education is more than the engine of the economy” (ChristenUnie 2010, 26).

After the 2010 election, performance pay became part of the coalition agreement. The combination of Christian Democrats (CDA) and Liberals (VVD) chose to invest 250 million euros—the monetary investment advocated by the CPB in its recommendations on performance pay. Even if the GNP in 2070 did not resurface in the justification for incorporating this measure in the agreement, which merely stated that “there will be more room for performance pay, for both
individuals and teams” (Regeerakkoord VVD-CDA, 31), it was at least of strategic importance later on. For when the coalition was criticized by members of the opposition for its lack of fundamental reform, the prime minister was able to point to performance pay as one of the key innovations to be realized in the coming four years. In working out the details of the plan, the coalition added other justifications for it besides the promised economic benefits. The most prominent justification was that performance pay would aid Dutch students in their return to being the best-performing students in the world. In addition, they claimed that differential pay was also necessary in order to break the culture of equality that was said to reign in primary and secondary education (Ministerie van OCW 2011, 9). The coalition thought that such a break would help to make the teaching profession more attractive in the near future: an individual who thought that teaching did not offer enough opportunities to make a career for oneself would now begin to see it as a job in which it was possible to get ahead and be properly rewarded for increased performance.

### 6.6 A world inhabited by principals and agents

In the first phase of the constitution of a rationalization of government that was centered on information and incentives (discussed in chapter 5), there was not yet a link between the wielding of power and the production of knowledge. Indeed, the design of allocation mechanisms in different economic environments emerged from a theoretical debate about the benefits and pitfalls of the free market versus the socialist state, rather than from the actual application of different allocation methods. Similarly, postwar economists did not generate knowledge by exercising power over workers and foremen, as did the engineers and interwar scientists of management. In addition, it was not yet apparent how the actual attempt to change the behavior of individuals could be informed by the formal models of information exchange. However, the intertwining of power and knowledge became more pronounced in the second phase of the economics-infused governmentality discussed in this chapter. Economists and political scientists began to articulate a wide range of relationships of power in which information asymmetry occurred and incentives were thus required. Furthermore, policy-oriented economists became enmeshed in political practice and public sector reform. Based on experiments conducted in foreign countries, for example,
Dutch CPB economists showed evidence for a precise and unequivocal effect of monetary incentives on teacher performance and long-term economic growth. They then played an active role in transforming this evidence from economic knowledge into a national policy measure. As with the engineers and interwar management scientists, therefore, performance pay gained strength as a technique for governing public servants at the sites where power was wielded. Despite the fact that power/knowledge became more important over time, chapters 5 and 6 map a single rationalization of government. Therefore, rather than summarizing this chapter in terms of the Foucauldian concepts I used previously, I will focus on the two things that were found lacking at the end of chapter 5. On the one hand, the subject was then still a formal figure caught up in a game with other subjects and a central coordinator. What became of the incentivizable subject after the proliferation of more circumscribed surfaces of emergence? On the other hand, mechanism design theory only made the purpose of the incentive schemes clear: to induce individuals to speak truthfully. Can we say more now about the nature of the techniques of power, advocated by economists, to counteract instances of information asymmetry?

The most important development in the second phase of the constitution of a third governmentality is that the incentive-information nexus was plugged into a wide range of real-world problems. In principal-agent theory, problems of asymmetric information were categorized under different headings such as moral hazard and adverse selection. These concepts, in turn, became tools for discerning particular problems in private and public sectors. The principal, for instance, might be a privately owned enterprise seeking the right subcontractor from a pool of subcontractors; it might be a number of shareholders who push management to increase shareholder value; or it might be an insurance company that has to design a range of contracts for its clients. Just like mechanism design theory, principal-agent theory did not restrict itself to the market domain. In the public sector, the principal might be the electorate who delegates authority to politicians; the government that tries to induce its executive agencies to enhance their performance; the parents who look for the best high school for their children; or the school administrators who try to manage teacher performance. These heterogeneous problems faced by public- or private-sector principals were seen as having the same root cause: information asymmetry. In other words, they all involved sets of self-interested agents who had more information than the principal and who were keen to exploit that advantage.
The end point of the attempts to localize the incentivizable subject was that information asymmetry became a common aspect of relationships between those who govern and those who are governed. This meant that the incentivizable subject was no longer a single figure (the soldiering worker, the underperforming foreman, the mentally and socially maladjusted industrial employee, the consumer in a socialist society). Instead, the subject became a strategic agent who appeared anytime it was possible to shield a surplus of knowledge from a principal in order to reap the benefits. Some of the relationships between principal and agent—that between employer and employee, for instance—might indeed resemble relationships that were addressed by previous rationalizations of government. But the set of relations covered by principal-agent theory was far from exhausted by that of manager and worker in an industrial setting. With principal-agent theory, the postwar economists paved the way for a conception of government and market as inhabited by principals and agents.

At the same time principal-agent theorists contributed to the reification of the surfaces where the incentivizable subject emerged, they also gave a fuller account of the incentives that could help balance the principal-agent relationship. When principals were confronted with situations of information asymmetry, they had to use techniques of power developed by economists to bridge the gap in knowledge. These techniques were much more concrete than the incentive schemes of mechanism design theorists. For instances of moral hazard, economists proposed monetary incentives: bonuses for managers who performed well and the possibility of bankruptcy for banks. For instances of adverse selection, the principal should construct screening devices. Such devices could be used by an insurance company, for instance, to separate their low-risk and high-risk clients.

Once economists became more involved in the practicalities of government, the techniques of power also became more circumscribed. The study on teacher performance pay is a clear example of the role that information plays in techniques of power. Principal-agent theory proved to be an important resource for Dutch economists arguing for public sector reform. Their conviction that information asymmetry was a major problem in the public sector is shown in their articulation of three specific relations between principal and agent in education. When schools could shield their malfunctioning from parents, then the creation of a hierarchical list based on the quality of schools in a certain region was the way to go. The competition thus established between the schools would be an incentive for underperformers to increase their efforts. When teachers used their autonomy in the classroom to block surveillance by school management, then performance
pay could help out. The quantification of the effects of primary and secondary school teachers on the educational output of their students would, when aided by a monetary stimulus, lead to improved results. When schools exploited their informational advantage to obstruct the intervention of the ministry of education, the economic experts advised lump-sum payment on the basis of well-defined performance criteria. Again and again, the solution to the information asymmetry that permeated the relation between principals and agents in education was found in the production of knowledge and the establishment of monetary rewards and punishments as incentives for behavioral change.