

CPB Document

No 34
October 2003

Equal Rules or Equal Opportunities? Demystifying Level Playing Field

**Marja Appelman, Joeri Gorter, Mark Lijesen, Sander
Onderstal, Richard Venniker**

CPB Netherlands Bureau for Economic Policy Analysis
Van Stolkweg 14
P.O. Box 80510
2508 GM The Hague, the Netherlands

Telephone +31 70 338 33 80
Telefax +31 70 338 33 50
Internet www.cpb.nl

ISBN 90-5833-133-4

Table of contents

Preface	5
Samenvatting (summary in Dutch)	7
1 Introduction	13
PART I. General analysis	17
2 Specifications	17
2.1 Conflicting use of the term 'level playing field'	17
2.2 Different types of asymmetry	18
2.3 Specification of the term level playing field	20
3 Dealing with level playing field issues	25
3.1 A rules-based level playing field, unless...	25
3.2 No outcome-based level playing field, but...	26
4 Exceptions: towards an outcome-based level playing field	27
4.1 Consequences of market failure for static efficiency	27
4.2 Consequences of government intervention	28
4.3 Options for government intervention	29
4.4 Limitations to government intervention	31
4.5 Conclusion	33
5 Exceptions: no rules-based level playing field	35
5.1 Dynamic efficiency	35
5.2 Countries differ in their preferences	36
5.3 Equity considerations	37
5.4 Conclusion	39
PART II. Case-studies	41
6 Secondary vocational and higher education	43
6.1 Introduction	43
6.2 The educational playing field: level or not?	44
6.3 The government's goals	47
6.4 Consequences of asymmetry in rules	48

6.5	Policy options	49
6.6	Conclusion	51
7	The arena for multinational enterprises	53
7.1	Introduction	53
7.2	The playing field for multinational enterprises: level or not?	54
7.3	The government's goals	56
7.4	Consequences of a rules-based level playing field	57
7.5	Other policy options	58
7.6	Policy competition	59
7.7	Conclusion	60
8	Electricity distribution	61
8.1	Introduction	61
8.2	Electricity retail: competition between retailers using an essential facility	63
8.3	Electricity distribution networks	66
8.4	Conclusion	68
9	The auction for petrol stations	71
9.1	Introduction	71
9.2	The rules of the auction	72
9.3	The playing field in the auctions of petrol stations: level or not?	73
9.4	The government goals	75
9.5	Consequences of heterogeneous bidders	76
9.6	Policy options	77
9.7	Conclusion	81
10	Conclusion	83
	Abstract	89
	References	91

Preface

The pursuit of a level playing field has a positive connotation. Who does not want a level playing field? In this light it is no surprise that economists, lobbyists and policy makers often substantiate their plea in some kind of policy issue with the argument that it is necessary to create a level playing field. But what does ‘a level playing field’ actually mean? And is every plea for ‘a level playing field’ justified? How can a government create a level playing field, if desirable? This study aims to demystify the concept of ‘a level playing field’ and to give a framework for policy makers to deal with level playing field issues.

The study was written by Marja Appelman (chapter 1, 2, 3, 4, 5 and 10), Joeri Gorter (section 5.2 and chapter 7), Mark Lijesen (chapter 8), Sander Onderstal (section 5.1 and chapter 9) and Richard Venniker (chapter 6). They thank Marcel Canoy and Richard Nahuis for their indispensable detailed comments that led to many improvements. We also thank Casper van Ewijk, Berend Hasselman and Victoria Shestalova for their comments. From outside CPB we benefited from comments by Jan Boone, Jeroen Brinkhoff, Paul de Bijl, Harry Garretsen, Johannes Hers, Maarten Janssen and Krijn Schep. The study was co-financed by the Dutch Ministry of Economic Affairs.

Henk Don, Director of the CPB

Samenvatting (summary in Dutch)

Verwarring over begrip 'gelijk speelveld'

Pleidooien voor een gelijk speelveld (level playing field), zoals in de internationale handel, klinken sympathiek, maar zijn vaak zwak onderbouwd. Dit komt omdat niet duidelijk is wat een 'gelijk speelveld' precies betekent. Sterker nog, het begrip 'gelijk speelveld' wordt op tegenstrijdige manieren gebruikt. Zo betoogt Cramton (1998) dat het bij veilingen mogelijk is een gelijk speelveld te creëren door benadeelde bidders een proportioneel voordeel te bieden. Robin Cook (Britain in Italia, 2000) daarentegen, zegt dat staatssteun juist moet verminderen om een gelijk speelveld te creëren. Uit het onderliggende rapport blijkt bovendien dat de uitdrukking, te pas en te onpas, voor elk pleidooi kan worden ingezet. Dergelijke onduidelijkheden van het begrip 'gelijk speelveld' zijn een voedingsbodem voor misverstanden. Dit rapport maakt duidelijk dat je niet in het algemeen kan zeggen of een verzoek om een gelijk speelveld gerechtvaardigd is. Dit rapport formuleert twee veel voorkomende interpretaties van het begrip 'gelijk speelveld' en geeft aan onder welke omstandigheden het vanuit welvaartsoogpunt wenselijk kan zijn om het speelveld volgens één van beide interpretaties te effenen.

Onderzoeksvragen en reikwijdte van bevindingen

Het rapport beantwoordt de volgende vragen:

1. Wat is een bruikbare specificatie van het begrip 'gelijk speelveld'?
2. Wat is de relatie tussen een (on)gelijk speelveld en welvaart: onder welke omstandigheden is een gelijk speelveld wenselijk voor bevordering van welvaart?
3. Welke beleidsopties heeft de overheid om, indien wenselijk, te interveniëren in het speelveld?

Begripsverheldering

Dit rapport onderscheidt twee gebruikelijke interpretaties van het begrip 'gelijk speelveld':

- *Gelijk speelveld in termen van regels: alle regels zijn hetzelfde voor alle bedrijven.* Met 'regels' worden alle vormen van overheidsbeleid bedoeld, zoals wetgeving en subsidies. Een speelveld is gelijk in termen van regels wanneer de regels symmetrisch zijn: dezelfde niet-discriminerende regels zijn van toepassing voor alle (verschillende) bedrijven in een markt. Oftewel: twee bedrijven in een gelijke situatie worden gelijk behandeld.
- *Gelijk speelveld in termen van uitkomst: alle bedrijven hebben een gelijke verwachte winst.* Bedrijven hebben een gelijk speelveld in termen van uitkomst wanneer ze dezelfde kenmerken bezitten (bijvoorbeeld dezelfde productiekosten en strategische mogelijkheden) en de regels symmetrisch zijn. Wanneer bedrijven niet dezelfde kenmerken bezitten, kan de overheid een

gelijk speelveld in termen van uitkomst creëren door het bedrijf met een concurrentienadeel te compenseren (bijvoorbeeld via subsidies).

Gelijk speelveld in termen van regels wenselijk, tenzij ...

De eerste conclusie van het rapport is dat een gelijk speelveld in termen van regels wenselijk is, al zijn er uitzonderingssituaties.

Uitgangspunt voor een analyse van een 'gelijk speelveld' vraagstuk is dat een gelijk speelveld in termen van regels in principe bijdraagt aan welvaart. Waarom? De idee is dat de overheid met een gelijk speelveld in termen van regels gelijke condities creëert voor bedrijven en dat de markt de rest doet. De overheid hoeft een bedrijf met een concurrentienadeel niet te steunen wanneer concurrentie leidt tot een optimale allocatie van middelen. Steun voor een bedrijf met een concurrentienadeel kan zelfs ongunstig zijn voor welvaart, bijvoorbeeld als een inefficiënt bedrijf via een subsidie een groter marktaandeel verwerft dan zijn efficiënte concurrenten. Cook heeft waarschijnlijk deze redenering in gedachte wanneer hij pleit voor vermindering van staatssteun.

De markt voor middelbaar en hoger onderwijs illustreert het nut van gelijke regels (hoofdstuk 6). In Nederland voorzien publiek gefinancierde en niet-gefinancierde instellingen in het onderwijs. Deze instellingen verschillen in de overheidssubsidie die ze ontvangen en in de verplichtingen waar ze aan moeten voldoen. Deze verschillen beperken de concurrentie en verminderen de prikkel voor de instellingen om een goede prijs-kwaliteitverhouding aan te bieden. De overheid kan de welvaart bevorderen door een gelijk speelveld in termen van regels te creëren.

Redenen voor afwijken van uitgangspositie

Er is een aantal uitzonderingssituaties waarin het wenselijk kan zijn af te wijken van het uitgangspunt dat een gelijk speelveld in termen van regels wenselijk is voor welvaart.

Ten eerste kunnen asymmetrische regels bij aanbestedingen de introductie van betere en nieuwe producten en verbeterde productietechnieken bevorderen (dynamische efficiëntie). Een tweede reden is dat asymmetrische regels wenselijk kunnen zijn voor inkomensherverdeling tussen burgers, zoals het geval is met het systeem van huursubsidie. Ten derde kunnen asymmetrische regels bijdragen aan welvaart wanneer landen verschillen in hun preferenties.

De arena voor multinationale ondernemingen (hoofdstuk 7) is een goede illustratie van de uitzonderingen vanwege inkomensherverdeling en landen met verschillende preferenties. De belastingen in Duitsland, bijvoorbeeld, zijn hoger dan gemiddeld in Europa en creëren een ongelijk speelveld in termen van regels. Buitenlandse concurrenten hebben een concurrentievoordeel omdat ze minder hoge belastingen betalen. Hierdoor kunnen zij een disproportioneel groot aandeel van de internationale markt veroveren. Het is echter niet waarschijnlijk dat de Duitse welvaart stijgt wanneer de Duitse overheid met een belastingverlaging het speelveld effent. De nadelen van de hoge belastingen voor de Duitse

bedrijven wegen waarschijnlijk niet op tegen het voordeel dat de hoge belastingen bijdragen aan Duitse preferenties. Tenminste, de Duitse politiek was tot recentelijk niet in staat om de roep tot sociaal-economische hervormingen te vertalen in daadwerkelijke vermindering van publieke voorzieningen en herverdeling. Vanuit Europees perspectief wordt belastingcoördinatie tussen lidstaten een optie. Maar ook in dat geval is het noodzakelijk het voordeel van een efficiëntere allocatie af te wegen tegen het nadeel dat minder rekening wordt gehouden met de heterogene preferenties van lidstaten.

Gelijk speelveld in termen van uitkomst nooit wenselijk, maar...

De tweede conclusie uit het rapport is dat het nastreven van een volledig gelijk speelveld in termen van uitkomst nooit wenselijk is, maar dat het in geval van marktfalen wenselijk kan zijn om het speelveld in bepaalde mate te effenen.

Het uitgangspunt is de aanname dat een gelijk speelveld in termen van uitkomst, waarbij de verwachte winst voor alle bedrijven op een bepaald speelveld gelijk is, niet bijdraagt aan welvaart. Over het algemeen zijn verschillen tussen bedrijven juist gunstig voor welvaart: de aanwezige productiemiddelen worden zo efficiënt mogelijk gebruikt indien bedrijven hun comparatieve voordelen kunnen benutten om consumenten aan te trekken (statische efficiëntie).

Marktfalen mogelijk reden voor overheidsingrijpen

In geval van marktfalen kan het wenselijk zijn het speelveld in termen van uitkomst in bepaalde mate te effenen. Statische efficiëntie kan toenemen indien de ongelijke kenmerken van bedrijven die tot marktfalen leiden, worden gecorrigeerd. De overheid kan de concurrentie bevorderen door via beleidsmaatregelen de versturende ongelijkheden tussen bedrijven te effenen. Het ligt voor de hand dat Cramton deze redenering in gedachten heeft wanneer hij pleit voor steun aan benadeelde bidders in een veiling.

Geprefereerde beleidsopties

Het effenen van het speelveld door correctie van marktfalen, betekent niet automatisch dat de overheid benadeelde bedrijven moet steunen met asymmetrische regels, zoals subsidies. De overheid kan ook symmetrische regels gebruiken, bijvoorbeeld: verlaging van toegangsbarrières tot een markt, verbetering van transparantie of vermindering van overstapkosten voor consumenten. Beleidsopties met symmetrische regels hebben vaak de voorkeur, aangezien de praktijk uitwijst dat asymmetrische regels moeilijk correct zijn uit te werken (overheidsfalen), kosten met zich meebrengen en ongewenste neveneffecten hebben. De positieve effecten van beleidsopties met asymmetrische regels overtreffen het risico op overheidsfalen en neveneffecten waarschijnlijk alleen in geval de overheid concurrentie wil stimuleren op markten met substantieel marktfalen, zoals in netwerksectoren en bij de allocatie van schaarse productiemiddelen (bijvoorbeeld veilingen).

De Nederlandse elektriciteitsmarkt (hoofdstuk 8) illustreert de noodzaak van (tijdelijke) asymmetrische regels. Om de efficiëntie van de netwerken te bevorderen zijn de prijzen van regionale elektriciteitsnetwerken sinds de liberalisering van de elektriciteitsmarkt onderhevig aan prijsregulering. Het probleem daarbij is dat de elektriciteitsnetwerken verschillende initiële efficiëntieniveaus hebben als gevolg van verschillen in investeringen die dateren van vóór de liberalisering van de markt. Hierdoor zijn de vereiste efficiëntieverbeteringen voor sommige netwerken moeilijker te bereiken dan voor andere spelers. Er is dus een ongelijk speelveld in termen van uitkomsten. Tijdelijke asymmetrische prijsregulering kan dit probleem oplossen.

De veiling van benzinestations (hoofdstuk 9) illustreert dat de overheid verschillende beleidsopties kan hebben: symmetrische regels en asymmetrische regels. De benzinestations langs de Nederlandse snelwegen zijn nu grotendeels in handen van vier bedrijven. Met een veiling van de benzinestations wil de overheid de toetreding van nieuwe bedrijven realiseren en de concurrentie aanwakkeren. Zonder aanvullende maatregelen zouden nieuwe toetreders in de veiling een nadeel hebben gehad ten opzichte van de huidige eigenaren (bijvoorbeeld minder informatie) en bestond het risico dat toetreding uitblijft. Mede vanwege het risico op overheidsfalen bij asymmetrische regels koos de overheid voornamelijk symmetrische regels om dit ongelijke speelveld in termen van uitkomst te effenen. Hierdoor kunnen nieuwe bedrijven beter toetreden.

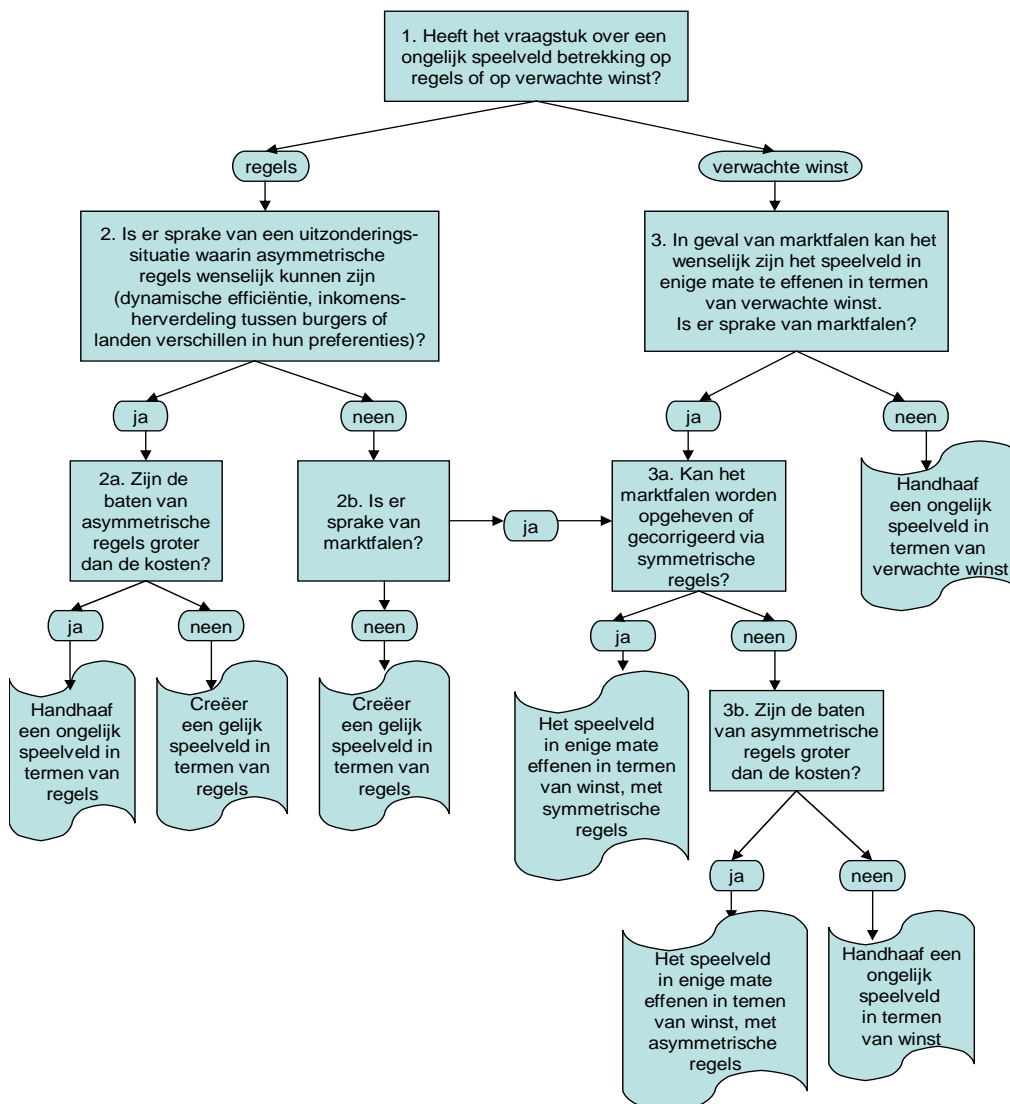
Stappen in een gelijk speelveld vraagstuk

Op basis van bovenstaande bevindingen kunnen een aantal vragen worden geformuleerd op basis waarvan beleidsmakers een vraagstuk over een gelijk speelveld kunnen analyseren. In aanvulling op de voorbeelden in het rapport kan het afwegingskader ook worden gebruikt voor andere vraagstukken over een gelijk speelveld, zoals in telecommunicatie (is het wenselijk om toetreders te bevoordelen?), klimaatbeleid (willen we vooroplopen in klimaatregelen?), landbouw en defensieorders (het buitenland subsidieert, dus wij ook?). We lichten het afwegingskader toe via twee voorbeelden.

Voorbeeld 1: In het buitenland worden scheepsbouwers gesubsidieerd. Moet de overheid ook Nederlandse scheepsbouwers subsidiëren om een gelijk speelveld te creëren? Dit voorbeeld gaat over asymmetrische regels, niet over verwachte winst. Dit betekent dat we verder gaan naar vraag 2: is er sprake van een uitzonderingssituatie? Het antwoord is positief, aangezien de scheepsbouwmarkt internationaal is en landen verschillen in hun preferenties. Dit brengt ons op de vraag of het voordeel van de asymmetrische regels voor Nederland groter zijn dan de kosten. Het voordeel van asymmetrische regels (Nederland subsidieert niet en het buitenland wel) is dat consumenten profiteren van goedkope buitenlandse schepen. Bovendien zijn er geen kosten vanwege overheidsinterventie: geen risico op overheidsfalen, geen ongewenste bijeffecten en geen claim op belastinggeld. Het nadeel ligt in de verminderde winst voor scheepsbouwers en (tijdelijk) verlies van arbeidsplaatsen. Zie ook paragraaf 5.2 en hoofdstuk 7.

Voorbeeld 2: In Nederland ondervinden ziekenhuizen bij bijvoorbeeld staaroperaties concurrentie van private klinieken. Private klinieken kunnen vanwege lage overheadkosten staaroperaties in principe goedkoper uitvoeren. Ziekenhuizen hebben hoge overheadkosten, omdat ze daarin kosten van andere diensten (zoals spoedeisende hulp en topzorg) verrekenen. Vanwege dit concurrentienadeel hebben ziekenhuizen een ongelijk speelveld in termen van uitkomst. Dit brengt ons op vraag 3: is er sprake van marktfalen? Uit onderzoek (CPB, 2003) blijkt dat er sprake kan zijn van marktfalen bij topzorg en spoedeisende hulp, maar niet bij eenvoudige ingrepen als staaroperaties. Zover als mogelijk dient het oplossen van marktfalen bij spoedeisende hulp en topzorg daarom te worden losgekoppeld van het overige zorgaanbod. Als dat lukt, is een ongelijk speelveld in termen van uitkomsten voor staaroperaties geen reden voor overheidsingrijpen.

Figuur 1.1 Afwegingskader



1 Introduction

In policy debates, we often hear a plea for a level playing field. For example:

Social housing: Two types of organisations are active in the Dutch market for social housing. On one hand there are non-profit organisations with special rights and obligations regarding social housing (corporations). On the other hand there are profit maximising firms. The Dutch cabinet has addressed some level playing field issues that arise from the hybrid market structure and suggested some measures to improve competition (MDW, 1999a). As a result, the tax exemption for corporations has been abolished on January 2003.

Secondary vocational and higher education: In the Netherlands, secondary vocational and higher education are provided by two types of institutes, publicly funded institutes and non-funded institutes, which differ in the subsidies they are entitled to and the extent to which they are regulated. Publicly funded institutes receive subsidies directly from the government, but are also subject to additional regulation. Non-funded institutes receive no direct subsidies and face less regulation. One way to encourage competition between education institutes is to create a level playing field: removing the differential treatment of non-funded institutes and publicly funded institutes.

Auctions for petrol stations: In the past, several organisations complained that the petrol market in the Netherlands is not very competitive, as profit margins are higher than in surrounding countries. As a response to the complaints the Dutch government intends to change the market structure by reallocating all petrol stations along the highways. The allocation takes place in a sequence of auctions and is aimed at a more competitive market. However, potential newcomers have complained that they have no opportunity to obtain a license for a petrol station, as they have to compete on an unlevel playing field with the incumbents. They claim that the government should make the playing field level by giving them an advantage in the auction.

International business: Companies operating on international markets often complain that they face unfair competition. Their foreign competitors have to comply with less stringent regulation with respect to the environment or to labour standards. Moreover, competitors receive state aid or are subject to lower capital income taxes. This creates a cost (or competitive) advantage for the foreign companies, allowing them to capture a disproportionately large share of the international market. As a result of the asymmetries, companies in high-cost countries often advocate a level playing field.

Electricity retail and networks: When the liberalisation process in electricity is completed, several electricity retailers will compete for the delivery of electricity to end users. To be able to sell electricity, the retailers need access to the electricity distribution network, which is a regional monopoly. Two types of firms may be active in the retail market: (1) companies that only offer retail services and (2) vertically integrated companies (with regards to ownership) that offer retail services and own the electricity distribution network. Vertically integrated

companies have an incentive to offer their own retail companies better conditions than other retail companies. The government implements regulation to enforce equal access to the network by creating a level playing field.

Public organisations as market players: In the last few decades many (semi-) public organisations initiated activities in the market, often in competition with private enterprises. However, the government has certain advantages compared to private enterprise, such as an exemption of taxes, additional subsidies, or customer information. These advantages can create a situation of unfair competition; there is no level playing field. This issue is still unsolved, as a proposed law ('Markt en overheid') to level the playing field has been declined.

Research questions

The examples given show the relevance of level playing field issues for policymaking. They, however, do not make clear what is meant by the concept 'level playing field' and why a level playing field is desirable in terms of welfare. It seems that the concept is used in conflicting ways. For instance, the example of social housing stresses the importance of equal rights and obligations for all players in the market to create a level playing field. In contrast, the example of the auctions for petrol stations stresses the claim that newcomers need an advantage to create a level playing field. Economic theory does not clarify either, since the concept is hardly touched upon. Instead, economic theory analyses specific issues that could be regarded as 'level playing field issues', without labelling it this way. This report tries to shed light on the meaning of 'a level playing field'.

On top of the haziness about the specification of 'level playing field' are questions about the desirable policy options. Creating a level playing field is not the same as egalitarianism: not every firm is equal and should have equal rights per se. Firms that have created an advantage over other firms by taking risks, by past efforts and investments should not be punished. It would reduce incentives for entrepreneurship. It is necessary to distinguish these cases in which differences between firms are desirable from other cases in which an advantage for certain firms has more artificial reasons. The distinction between desirable and undesirable advantages is, however, often not clear. The purpose of this report is to provide guidelines for determining this distinction.

The report tries to answer three questions:

- What is a useful specification of the term 'level playing field', given the questions regarding government intervention?
- What is the relation between a (un)level playing field and welfare: under what circumstances is a level playing field desirable for welfare?
- How can the government intervene, if desirable?

Focus is on markets

This report analyses level playing field issues with regards to firms that operate on a market. However, conceptually the analysis also applies to situations in which non-profit organisations, governmental institutes, individuals, or sportsmen are the players. The report illustrates the extensive application possibilities with some examples.

Outline of the report

This report consists of a general analysis (part I) and some case-studies (part II)

The general analysis in part I starts with the specification of the concept 'level playing field' (chapter 2). It appears that the conflicting use of the concept relates to two different types of asymmetry that people have in mind: asymmetries in rules and asymmetries between firms' characteristics. We define two descriptions of 'level playing field' to address both asymmetries. The next chapter indicates how to deal with level playing field issues (chapter 3). We formulate a starting point for policy making and the exceptions in which it can be beneficial to deviate from this starting point. The two final chapters of part I elaborate on the options for policy making (chapters 4 and 5).

The case-studies in part II are an intrinsic part of the report, as the details of the cases provide information about the concept of 'level playing field' in general. This approach was chosen because of the lack of specific attention for the concept 'level playing field' in economic theory. The cases have been chosen for two reasons. First, together they cover a wide range of level playing field issues. Second, the cases are topic of policy debate at the time of writing. Part II starts with an explanation of the connection of each case with the findings in part I of the report. The first case looks into secondary vocational and higher education (chapter 6). The second case analyses the arena for multinational enterprises (chapter 7). The third case is about electricity distribution (chapter 8) and the final case discusses the auction for petrol stations (chapter 9).

The main findings of this report are brought together in the conclusion (chapter 10).

PART I. General analysis

2 Specifications

The Longman Dictionary of Contemporary English (1995 edition) provides a definition of a 'level playing field':

"A situation in which different companies, countries etc can all compete fairly with each other because no one has special advantages."

In line with the definition, there is an unlevel playing field if some firms have special advantages.

Despite the definition, economists, lobbyists and policymakers seem to interpret the concept 'level playing field' in conflicting ways. The definition in the dictionary lacks precision about what is meant by 'fairly' and 'special advantages'. Economic literature does not provide a more precise definition either. This chapter formulates a specification of the concept 'level playing field'.

The setup of this chapter is as follows. Section 2.1 addresses the conflicting use of the term 'level playing field'. We will reduce the discrepancy to differences in the type of 'special advantages' (or: asymmetry) that people have in mind. Therefore, section 2.2 looks at the different types of asymmetry in the playing field. With the information, we are able to formulate two specifications of the term 'level playing field' in section 2.3.

2.1 Conflicting use of the term 'level playing field'

When we look at the way economists, lobbyists and policymakers use the concept 'level playing field', we observe that they interpret it in conflicting ways. For instance, Cramton (1998) writes in the context of auctions: "If the seller knows the extent of the asymmetry, then the seller can level the playing field by giving disadvantaged bidders an appropriate price preference." On the other hand, Robin Cook (Britain in Italia, 2000) says in the context of state aid: "We don't do it at home, we want to make sure that our companies at home that stand on their own feet, that trade in their own way, can compete on a level playing field and, indeed, we have made considerable progress at this summit in getting agreement that there will have to be a reduction in state aid. That is good for British businesses that don't get state aid but sometimes are asked to compete with companies that do."

The discrepancy between Cramton and Cook can be reduced to different interpretations of the term 'fairly' in the Longman definition of a 'level playing field'. Cramton seems to have in mind that firms compete fairly when they have the same opportunity to obtain an object in the

auction. Cook, in contrast, seems to consider it fair when the state aid rules are the same for all firms. It is not hard to observe that these two ways to use the concept of 'level playing field' conflict with each other: Cramton would argue for introducing asymmetry, which would make the playing field unlevel in Cook's sense.

The conflicting use of the term 'level playing field' may create a breeding ground for policy errors, as the boxes in chapter 4 and 5 will illustrate.

2.2 Different types of asymmetry

Cramton and Cook have different interpretations of the term 'fairly' because they talk about different types of asymmetry. When Cramton says that some bidders have a disadvantage, he is referring to different characteristics of firms. On the other hand, Cook refers to differences in rules when he says that some firms get state aid and other firms do not.

Asymmetric rules

In this report the word 'rules' refers to all types of government policy. For example, rules in a market refer to the legislation, taxes, subsidies, labour standards and state aid. In an auction, the rules refer to the auction mechanism, a minimum bidding price and the auctioneer. The word 'rules' does not include aspects that a firm can control itself, such as its strategy, cost-efficiency or location.

We call rules symmetric if the same non-discriminating rules apply to all firms. We call rules asymmetric if they do not apply to all firms, if different rules apply to different firms or if rules have a discriminating effect.

What do we mean with discriminating effect? Rules have a discriminating effect if they treat firms in equal situations differently. Rules are not discriminating just because their effect differs per firm. The effect of symmetric rules will generally depend on the characteristics of firms: whether a firm is small or big, an entrant or an incumbent, located in a city or in the countryside etcetera. Imagine a soccer game with two unusual rules: (1) the game takes 120 minutes and (2) the team with the white shirts gets two points if it scores, whereas the blue team gets one point. The teams also differ in their characteristics, as the stamina of the blue team is much better than that of the white team. Rule 1 is symmetric, despite the fact that the long duration of the game is probably a disadvantage for the unfit white team. Rule 2 is asymmetric, despite the fact that the rule holds for both teams.

The influence of a government on asymmetric rules depends also on the jurisdiction of a government:

- When a government's jurisdiction is the same as (or larger than) the market, the government is responsible for the rules and it can adjust the asymmetry if it wishes. An asymmetry in rules is more or less the intended result of policy measures. An example of an asymmetry in rules is the Dutch market for secondary and higher education, in which different rules apply to publicly funded institutes and appointed institutes (see chapter 6). Another example is broadcasting in the Netherlands, with different rules for public and commercial broadcasting organisations.
- If the jurisdiction of one government is smaller than the market, an asymmetry in rules can be the result of different policies of the various governments involved. This is the case, for instance, if companies compete on an international market and the tax level differs per country. It is also the case if construction companies compete on a national market and the building regulation differs between local governments. Section 5.2 elaborates on this subject.

In line with this, it is necessary to determine which perspective is taken in the general welfare analysis of a level playing field issue: the perspective of a municipal authority, a national authority, or a supranational body like the EU.¹

Note that the impact of an asymmetry in rules may be small in specific circumstances in which firms are able to switch between rules. For instance, if education institutes can choose freely whether they want to be publicly funded, the asymmetry in rules has little impact. Another example is that multinational enterprises can decide to move their home base to another country. See details in chapter 6 and 7 respectively.

Asymmetric characteristics of firms

Generally firms in a market are heterogeneous. Firms can differ in their characteristics because of differences in their cost-efficiency or in their strategy space. In this report strategy space means the strategic options of a firm regarding price, product differentiation, location, distribution etcetera. Differences in strategy space may result for example from entry barriers, information asymmetry, vertical integration, geographical circumstances or access to (natural) resources. An entry barrier, such as reputation-effects or switching costs, can influence the strategy space of firms, as it limits the possibilities for entrants and it creates market power for incumbents. In this report we call firms heterogeneous if they differ in their characteristics.

The characteristics of a firm are dynamic. If firms differ in characteristics today, it does not necessarily imply that they will still differ tomorrow. The dimension of time is important in several ways.

¹ Both the scope of a market and the jurisdiction are not fixed. Markets are becoming increasingly international. As a result markets are becoming larger than the jurisdiction of one government in an increasing number of cases. In Europe, this is partly offset by the trend to centralise the jurisdiction in the hands of the European Commission.

First, there may be exogenous developments creating new asymmetries (increasing heterogeneity), or reducing existing asymmetries (reducing heterogeneity). An example of the latter is that care providers benefit from economies of scale when they need to use an expensive medical instrument. Economies of scale create heterogeneity in cost-efficiency between care providers with a large and a small market share. In the future, technological developments might make the instrument cheaper and reduce economies of scale. As a result, the heterogeneity in cost-efficiency between the care providers will decrease.

Second, the longer the time horizon, the more a firm is able to influence its own characteristics. Firms will try to reduce disadvantages and to create advantages:

- Firms with disadvantages will try to reduce heterogeneity. Take, for example, a market of shipbuilding characterised by economies of scale. Shipbuilder A is less efficient than shipbuilder B, because shipbuilder A has a smaller market share. To reduce heterogeneity, shipbuilder A can try to increase its market share. Another example is an entrant who faces entry barriers in the form of a lack of reputation and customer base. If the entry succeeds (despite the entry barriers), the entrant will develop his own reputation and customer base, and heterogeneity between firms will decline.
- Firms will try to introduce heterogeneity in favour of themselves. An example is a market of financial services in which ex ante all (potential) banks have the same production costs. Incumbent banks will try to create switching costs in order to discourage their clients from switching to a competitor. As a result, production costs may become heterogeneous ex post. Another example is that all banks have the same production costs, and one bank invests in electronic banking in order to lower the cost level in the long run. Also in this example banks become more heterogeneous.

Several asymmetries in rules and several types of heterogeneity between firms can occur at the same time.²

2.3 Specification of the term level playing field

From the conflicting use of the term 'level playing field' we learn that it is not possible to give one generally received definition. Instead, we can introduce specifications that are common in level playing field discussions. In line with the two types of asymmetry, we introduce two specifications of the concept 'level playing field' in which firms compete fairly with each other. The first specification of level playing field focuses on rules, whereas the second specification

² In many cases asymmetry in rules and asymmetric characteristics of firms are not related. For example, Germany has disadvantages on the cotton market because of a high tax level and because it is too cold to grow cotton. An asymmetry in rules and asymmetric characteristics of firms can be related when an asymmetry in rules creates, after a certain period, asymmetric characteristics of firms. There may also be a relation when a government creates an asymmetry in rules in order to tackle asymmetric characteristics of firms (see chapter 4).

focuses on heterogeneity between firms. The specifications make it possible to prevent conflicting use of the concept 'level playing field'. The specifications fit in with the ways in which concepts of 'level playing field' are generally used.

Rules-based level playing field: the rules are the same for all firms.

Outcome-based level playing field: all firms have the same expected profit.

The specifications focus on firms, but can also apply to other players, such as non-profit organisations (chapter 6), governments (chapter 7), individuals (section 5.3) and sports teams (box below).

Rules-based level playing field

In a level playing field in terms of rules, 'level' is interpreted as the same rules for all firms in a market. There is a rules-based level playing field if equal rules apply to all (different) firms in a market and the rules treat firms equal in equal situations (no discriminating effect). Note that the specification of a rules-based level playing field is about equal conditions and not about equal effects.

There is a rules-based unlevel playing field if rules are asymmetric: if rules do not apply to all firms, if different rules apply to different firms or if rules have a discriminating effect.

The notion of a rules-based level playing field is useful because it fits in with the idea that competition may not be fair if firms have asymmetric rules. It agrees with Cook's argument that it is not fair that some firms get state aid and other firms do not. Also several examples in the introduction (chapter 1) use level playing field in this way. The first example is that competition between education institutes may be enhanced by creating a rules-based level playing field: removing the differential treatment of the different types of institutes and giving them the same chance on public funding (see chapter 6). Another example relates to companies operating on an international market. Firms based in a country with stricter rules and/or higher taxes, meet higher costs than firms based in countries with less strict rules and/or lower taxes. There is a rules-based unlevel playing field (see chapter 7). Also the regulation of retail in the electricity market is intended to create a rules-based level playing field, as it aims to enforce equal conditions for access to the electricity distribution network for all retail companies (see chapter 8).

Outcome-based level playing field

In a level playing field in terms of outcome, 'level' implies that all firms in a market have the same expected profit.³ Firms have an outcome-based level playing field if they have equal characteristics (for example in cost-efficiency and strategic options) and the rules are symmetric. In case firms are heterogeneous, the government can create an outcome-based level playing field by compensating the disadvantaged firm (for instance with subsidies). Both cases result in equal opportunities for profit making.

There is an outcome-based unlevel playing field if some firms have better opportunities of making profits than others, because of asymmetries. The asymmetries can have all kinds of causes: firms may be heterogeneous and/or face differences in rules.

The notion of an outcome-based level playing field is useful because it fits in with the idea that competition may not be fair if firms are heterogeneous. It suits with Cramton's idea to create a level playing field in an auction by giving disadvantaged bidders an appropriate price preference. This specification of a level playing field is sometimes used in auctions and in network sectors.

Consider, for example, the market for mobile telecommunication in the Netherlands. KPN and Vodafone are subject to stricter rules than their competitors, because they have a large market share. The stricter rules are intended to encourage competition in the development of new services on the networks for mobile telecommunications. Among other things, KPN and Vodafone have to give access to firms (such as carrier select services) that do not have their own mobile network. The access is aimed at encouraging the entry of new firms.

Another example is the auction of licences for petrol stations in which incumbents and entrants are heterogeneous. Among other things, potential newcomers lack information about the market and have to incur costs to build up a customer base and a reputation. Therefore, an incumbent is probably willing to pay a higher amount of money in the auction than a newcomer. The incumbent and entrant do not have the same opportunity to obtain the licence. The incumbent is likely to win (see chapter 9).

It is never desirable to pursue a fully outcome-based level playing field. The strict specification makes it also practically impossible to make a playing field outcome-based level. In general, it is favourable for welfare if firms differ in cost-efficiency; this heterogeneity should not be levelled.⁴ However, levelling types of heterogeneity between firms that are related to market failure is often favourable for welfare, since it encourages competition between firms. Chapter 4 elaborates on this.

³ The definition on an outcome-based level playing field can be adjusted if firms have other objectives than profit maximisation. For instance, firms in the auctions of petrol stations aim to obtain a licence. In that case, there is a level playing field if firms have the same probability to win a licence.

⁴ There may be some exceptions in which the government may wish to correct for some differences in efficiency, see chapter 8 for an example.

Level playing field in sports

The concept of a rules-based level playing field and an outcome-based level playing field also apply to sports.

Generally, sports have a rules-based level playing field. Take for instance soccer. The same non-discriminating rules apply to both teams. In addition, the teams change sides in the middle of the game, in order to make sure that they have the same conditions regarding the field, the sun and the wind. Moreover, a game is only considered fair if the referee is objective, which is often a topic of debate. These sports do not have an outcome-based level playing field: the best team will win.

In exceptional cases, elements of an outcome-based level playing field are introduced in a sports tournament. An example is sailing. Tournaments in which different types of sail boats participate often have asymmetric rules in favour of the disadvantaged boats. The asymmetric rules create a situation in which boats of different strength have the same opportunity of winning the game. The fastest boat, after correcting for its handicap, wins.

In contrast, there are also tournaments with asymmetric rules in favour of the strong player. In these cases there is a rules-based unlevel playing field and an outcome-based unlevel playing field. For instance, in Grand Slam tennis tournaments the highest ranked players in the world are automatically qualified to participate, whereas others have to compete. Moreover, the highest ranked players meet each other only late in the tournament. These asymmetric rules may have commercial reasons: a tournament becomes more attractive if the 'big names' participate. In addition, the asymmetric rule may encourage dynamic efficiency: a reward for the player's past investments (see section 5.1).

3 Dealing with level playing field issues

Creating a rules-based or outcome-based level playing field is not a policy goal by itself. Tilting the playing field is only desirable if it contributes to welfare.

3.1 A rules-based level playing field, unless...

A starting point to deal with a level playing field issue is to assume that a rules-based level playing field is desirable and to check whether there are reasons to deviate from the assumption.

Heterogeneous firms are favourable for welfare

Many types of heterogeneity between firms are favourable to welfare. More specifically, it is beneficial for static efficiency⁵ if production is allocated in such a way that firms use their comparative advantages to attract consumers. In cases without market failure, free markets lead to an optimal allocation of resources: no one can be made better off without someone else being made worse off (Stiglitz, 1988). Therefore, symmetric rules are desirable as they hamper competition less than asymmetric rules. For instance, a market consists of two types of shipbuilders who differ in their cost-efficiency. Competition between the shipbuilders will allocate consumers to the most cost-efficient firms. Static efficiency in the market is encouraged if the cost-efficient shipbuilders are able to gather a larger market share than their less efficient competitors.

Asymmetric rules can affect efficiency. It is easy to see that asymmetric rules can result in lower static efficiency if they favour the cost-inefficient firm. Let's return to the market of shipbuilding in which some shipbuilders are more cost-efficient than others. When cost-inefficient shipbuilders receive a subsidy, they may be able to increase their market share at the expense of the efficient competitors. This would reallocate production to the cost-inefficient shipbuilders and reduce static efficiency in the market. But what if the asymmetric rules favour the efficient firm (picking the winner)? Picking the winner is not likely to result in higher static efficiency either. The reason is that the cost-efficient firm will generally also be able to gain market share with symmetric rules. Asymmetric rules, such as subsidies, might speed up the growth of market share, but this ambiguous positive effect is generally outweighed by the welfare costs of the asymmetric rules (see section 4.4). Moreover, it is relatively difficult to judge ex ante which firm will be the winner. The winner in one period does not need to be the winner in the next period.

⁵ Static efficiency reflects whether the current technology is used as effectively as possible to satisfy consumers' and producers' needs.

Exceptions to the rule

There are a number of situations in which asymmetric rules may be favourable to welfare.

- In specific situations asymmetric rules may be desirable for dynamic efficiency. See section 5.1.
- In cases in which countries differ in their preferences. See section 5.2.
- Asymmetric rules may be desirable to redistribute income among citizens (equity). See section 5.3.

3.2 No outcome-based level playing field, but...

It is never desirable to pursue a fully outcome-based level playing field, on which all firms have the same expected profit. Section 3.1 explains that efficiency will increase when firms can use their competitive advantages to attract customers. However, it may be desirable to level the outcome-based level playing field to a certain extent in case of market failure. More specifically, if heterogeneities between firms are related to market failure, static efficiency may increase if these heterogeneities are corrected. By market failure we mean that efficiency in a market is less than optimal because of externalities, market power or incomplete markets. See chapter 4.

4 Exceptions: towards an outcome-based level playing field

This chapter analyses the relationship between level playing field and static efficiency in case of market failure. Static efficiency is a measure of the effective use of current technology to satisfy consumers' and producers' needs. Chapter 3 showed that many types of heterogeneity between firms encourage static efficiency. In this chapter we will show the consequences of market failure for static efficiency (§4.1). Government intervention aimed at moving towards an outcome-based level playing field may enhance static efficiency in case a type of heterogeneity between firms is related to market failure (§4.2). We will make clear that the government does not necessarily need to implement asymmetric rules to move towards an outcome-based level playing field. Policy options that do not discriminate between firms are often preferable to policy options involving asymmetric rules (§4.3). This is mainly because the possibilities for asymmetric rules are limited (§4.4).

4.1 Consequences of market failure for static efficiency

Heterogeneity between firms can be related to market failure. Why? Heterogeneity may give a firm market power that does not result from its comparative advantages. Therefore, this market power may lead to misallocation of resources. Such a distortion can harm static efficiency.

It is not always clear cut whether heterogeneity between firms is related to market failure.⁶ Chapter 3 already showed that many types of heterogeneity are favourable for static efficiency. In addition, certain types of heterogeneity only cause market failure in specific cases. For example, does an information asymmetry for entrants create market power for incumbents? The answer will probably be negative for the market for bakeries. New bakeries are likely to be able to enter the market, although the information asymmetry can initially be unfavourable for them. In contrast, an information asymmetry can prevent entry in an auction of licences for petrol stations. The essential difference between the two markets is that the number of licences for petrol stations is fixed by the government, whereas the number of bakeries can increase. Therefore, new firms can only get a licence for a petrol station if they are better than incumbents right from the start, which is not likely if entrants have an information disadvantage. In contrast, new bakeries have some time to overcome the information disadvantage. This example makes clear that it is necessary to analyse on a case-by-case basis whether heterogeneity between firms is related to market failure.

⁶ The causal relationship between an asymmetry and a market failure may go in both directions, depending on the specific case. On the one hand, an asymmetry may cause a market failure. On the other hand, a market failure may cause an asymmetry. Since the direction of the causality is not relevant for the analysis of level playing field, this report will not stress the direction of the causality, but simply say that an asymmetry is related to a market failure.

Also note that market failure does not have to be permanent. In some cases, a type of heterogeneity between firms that is related to market failure can diminish in the course of time (see section 2.2.) or by temporary government intervention (see section 4.3).

The impact of market failure differs per case. The market failure may be substantial or not, depending on the distance between the market outcome and the welfare optimum. Examples of substantial market failure can be found in network utilities and in the allocation of scarce resources (such as auctions). Market failure can be substantial in auctions, because small heterogeneities between bidders in an auction can lead to large differences between the outcomes of commonly used auctions (see chapter 9). Market failure can be substantial in network utilities, because these sectors have many characteristics that can cause market failure.⁷ The market failure related to heterogeneities between firms is likely to be less substantial in many other situations.

4.2 Consequences of government intervention

Levelling heterogeneity related to market failure can intensify competition between firms and increase welfare. The intuition is that the market power of the firms that benefit from the heterogeneities is reduced. As mentioned in section 3.2, it is often not desirable to level all types of heterogeneity between firms, but only those that are related to market failure.

An example is the market for financial services with cost-efficient and cost-inefficient banks. Suppose the heterogeneity in costs between the banks can persist because consumers face switching costs: changing banks necessarily implies a new account number. Obviously, a new account number creates a lot of paperwork for customers, as all the client's financial relations need to be informed (CPB, 2001a). A government policy to introduce portability of account numbers and to improve transparency reduces switching costs and subsequently market power. The increased competition makes it easier for the cost-efficient banks to gain market share, which will increase static efficiency in the market.

⁷ An important characteristic that can cause market failure is the fact that network utilities are often natural monopolies. The strong economies of scale make it socially undesirable to have more than one network. The scale-effects are caused by the significant investment in infrastructure and the small marginal costs for services transported over the infrastructure. Other frequently appearing market failures in network utilities are consumption externalities and switching costs. See Shy (2001).

No level playing field in the Dutch UMTS auction

The Dutch UMTS auction is an example in which static efficiency might have been harmed because the government did not reduce the types of heterogeneity between firms that are related to market failure. Entrants are generally at a disadvantage in auctions. Even worse, entrants generally have zero probability of winning and may therefore decide not to enter the auctions (section 9.5). In that case, the government could be forced to sell the object for little more than the reserve price. The government has options to reduce heterogeneity between firms in the auction design, for instance with an exclusive UMTS-license for entrants or with a higher number of licenses than the number of incumbents. The Dutch government did not choose any of these options. Several economists criticised the design of the Dutch UMTS auction as 5 licenses were sold for a market with 5 incumbents (see Klemperer, 2002a, Jehiel and Moldovanu, 2001, and Van Damme, 2001). These authors claim that an entrant is unlikely to win a license in such a situation. This claim is supported by the fact that the Dutch UMTS auction attracted only one entrant, and generated low revenue in comparison with the UK and Germany.

4.3 Options for government intervention

A government that wants to reduce heterogeneity between firms will often have a number of policy options. One can distinguish policy options that involve asymmetric rules and other policy options. Both types of policy options can either have a permanent or a temporary character:

- Policy options that reduce heterogeneity between firms in the course of time may be temporary. The government intervention can stop after the market failure is solved. An example is the yardstick competition for electricity networks in which the rules for the inefficient network owners may need to be stricter than for their efficient counterparts. The asymmetric rules can have a temporary character, with the intention to encourage efficiency improvements by inefficient network owners. After a certain date, the rules can be level (see chapter 8).
- Policy options that only offset heterogeneity between firms may need to be permanent. The reason is that this type of government intervention does not reduce the market failure. An example is the regulation of equal access to the electricity distribution network: it does not reduce the market power of the owner of the distribution network, but prevents abuse of market power.

4.3.1 Government intervention with symmetric rules

The government can intervene with symmetric rules to reduce the heterogeneity between firms. The intended result of this type of government intervention is to level the outcome-based level playing field to a certain extent. At the same time the government introduces or keeps a rules-based level playing field.

Government intervention with symmetric rules has the advantage that it does not involve discrimination between firms. Section 4.4 shows that this is an advantage because it leads to relatively low costs of government intervention and relatively little legal restrictions.

There are several examples of government intervention with symmetric rules:

- *General policy options to intensify competition between firms.* There are several examples, depending on the type of heterogeneity between firms. For instance, policy options to improve transparency and to introduce portability of account numbers in the bank example.
- *Corrective measures preceding the competition, aimed at reducing heterogeneity between firms.* An example is the market for electricity retailing in which a vertically integrated distribution network owner causes market failure. The option for government intervention is to require vertical separation of ownership of the network from the retailing market (see chapter 8). Another example is the auctions for petrol stations in which the incumbents are more likely to obtain a license. An option for government intervention is to limit the market share that any firm may have (see chapter 9).
- *Changing to another competition mechanism, in order to intensify competition between firms.* These options are limited to markets in which there is a big role for government anyway. An example is that the government chooses another auction mechanism to allocate petrol stations (see chapter 9). In public sectors with a budget mechanism, the government may be able to change the funding of institutes, see for example the market for education (chapter 6).

4.3.2 Policy options with asymmetric rules

The government can also reduce or compensate heterogeneity between firms with asymmetric rules. Asymmetric rules either favour the disadvantaged firm(s) or create a handicap for the advantaged firm(s). The government introduces a rules-based unlevel playing field in order to move towards an outcome-based level playing field.

The use of government intervention with asymmetric rules is likely to be limited to cases with substantial market failure, because asymmetric rules have relatively high costs of government intervention compared to symmetric rules and because of legal restrictions (see section 4.4).

Asymmetric rules can have many forms. Let us return to the example of the auction for petrol stations, in which the government wants to encourage participation of entrants. The government has several options for favouring the entrants, for instance by giving them a credit bid (an entrant only has to pay a certain percentage of his bid), or by reserving attractive licenses for them. The government could also create a handicap for incumbents, for instance by setting restrictions on their participation. Another example is the Dutch market for fixed telecommunications. KPN has some obligations that do not apply to other firms in this market, because KPN is the incumbent and formerly a monopolist state organisation. KPN has to offer some services to all Dutch consumers at reasonable prices and with a certain quality (universal

service obligation). These services include fixed private telephone services, public telephones services and information services about subscribers.

4.4 Limitations to government intervention

The government obviously needs to choose a (combination of) policy option(s) with the most positive welfare effect. The existence of market failures does not automatically imply that government intervention will improve welfare. The government has to weigh the positive consequences of a policy option on static efficiency against the costs of government intervention. Moreover, the legal possibilities for asymmetric rules are restricted.

4.4.1 Costs of government intervention

The costs of government intervention are related to the risk of government failure, transaction costs and undesired side effects. This section will show that the costs of government intervention are generally larger for asymmetric rules than for symmetric rules. Therefore, the positive effects of policy options involving asymmetric rules may only offset the costs of government intervention in markets with substantial market failure (network utilities and allocation of scarce resources).

Government failure relates to the risk that a government chooses the wrong policy option because of an information asymmetry or political opportunism. This risk is generally low if a government wants to create a rules-based level playing field, as it is rather easy to judge *ex ante* whether rules will treat firms equally in the equal circumstances. In contrast, the risk of government failure may be high in case of asymmetric rules, because it is difficult to judge *ex ante* which policy measures will compensate for heterogeneity between firms. Governments lack information on the extent of the heterogeneity that needs to be levelled, on the type of corrective rules that are needed and on the effects of the corrective rules on the playing field. See, for instance, the questions arising if a government aims to level the outcome-based playing field for entrants to certain extend in order to encourage participate in an auction. How big is the entry barrier? Is a bidding credit a good policy option? Is a bidding credit of 10% of the winning bid large enough to offset the entry barrier?

If the government failure is large, the effect of tilting the playing field towards an outcome-based level playing field could be the opposite of what was intended.

Transaction costs can be high in case of asymmetric rules. It often involves complex regulation. Moreover, asymmetric rules can have direct budgetary consequences for a government in case of subsidies, tax deductions etcetera.

A government needs to consider, on a case-by-case basis, any potentially undesirable side effects of intervention on equity and efficiency. Policy options that do not discriminate between firms are likely to involve little undesirable side effects. In contrast, side effects are likely to occur when tilting the playing field involves asymmetric rules. Potential side effects on equity are explained in section 5.3. Potential side effects on efficiency may arise because asymmetric rules benefit some firms (and harm others) and create (dis)incentives not related to the comparative advantages of the firms. An example is that a subsidy for shipbuilders may reallocate more resources (capital, labour) to this sector than efficient. Another example is the FCC auctions in the US in which bidders with disadvantages on the capital market had the possibility of instalment payments. The outcomes of these auctions show that the rules gave bidders an incentive to submit risky business plans (see chapter 9).

4.4.2 Legal restrictions in case of setting asymmetric rules

Legal principles raise the question whether a government is allowed to implement asymmetric rules in order to move towards an outcome-based level playing field. To know the legal possibilities, we look at some basic legal principles as well as at conditions in the EC treaty regarding state aid and competition. See for more information: MDW (2002) and Maasland et al (2003).

When setting asymmetric rules, the government has to keep three basic legal principles in mind. First, the principle of equality before the law says that the government has to treat equal cases equally and that the government has to treat unequal cases unequal to the same extent. This fits in with the second principle: the principle of non-discrimination says that equal situations may not be treated differently, unless the differences are objectively justified. Non-discrimination also means that rules of the game have to be known to all firms and have to be applied the same way. Third, the principle of proportionality implies that the government needs to prove that the asymmetric rules are necessary and proportional to reach the government goal. Moreover, the government needs to make clear that the market failure cannot be solved with other means.

The EC treaty shows a tension between the conditions regarding state aid and competition. On the one hand, asymmetric rules seem to comply with the obligation for governments in article 82(3) and 82(10) not to jeopardise competition. In this light, asymmetric rules may be regarded as possible government instruments to encourage competition in markets in which competition fails. On the other hand, asymmetric rules can be regarded as state aid. Article 87(1) EC Treaty prohibits, with certain exceptions, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods, insofar as it affects trade between Member States. Asymmetric rules, by nature, entail advantages to certain undertakings.

Asymmetric rules will be qualified as a form of State aid within the meaning of Article 87, when it meets all of the following four criteria:

- The measure confers on certain undertakings an advantage, which they would not enjoy from their own commercial endeavours or which would relieve them of charges that are normally borne from their budgets. There is no advantage if the undertaking does something genuine in return.
- The measure is specific or selective: it favours only certain undertakings or the production of certain goods and services.
- The advantage is granted by the State.
- The measure affects competition and trade between Member States. Article 87(3) mentions some categories of State aids that can be exempted by the European Commission, like state aid that facilitates projects, which are important for Europe or the development of certain forms of enterprise.

The tension in the EC treaty between conditions regarding state aid and competition makes it difficult to say whether and when asymmetric rules are allowed. The Court of Justice has not made any decisions with regards to asymmetric rules yet. The point of view of the European Commission about the permissibility of asymmetric rules seems to be ambiguous. In some cases the Commission puts more emphasis on competition. For instance, the Commission permits that firms with market power are excluded from the auction of telecommunication frequencies for a certain period. In other cases, the Commission puts more emphasis on considerations regarding state aid. An example is that the European Commission seems to consider that credit bids for newcomers are state aid in the case of the auctions for petrol stations. Theoretical and empirical research reveals that the government, when giving credit bids, may expect higher revenues rather than lower (see chapter 8), but it seems difficult to use ex ante economic analysis on how competition will develop as a legal burden of proof.

4.5 Conclusion

Government intervention may increase static efficiency if heterogeneity between firms is related to market failure, but it does not necessarily mean that the government needs to implement asymmetric rules. Policy options with symmetric rules are often preferable to policy options involving asymmetric rules. The reason is that asymmetric rules may involve high costs of government intervention. The positive effects of government intervention on static efficiency need to be weighed against the costs of government intervention. The positive effects of policy options that involve asymmetric rules may only offset the costs of government intervention in markets with substantial market failure, such as in case of network utilities and in the allocation of scarce resources (e.g. auctions).

5 Exceptions: no rules-based level playing field

This chapter analyses three situations in which asymmetric rules can enhance welfare: dynamic inefficiency (§5.1), difference between national preferences (§5.2) and equity-considerations (§5.3). These situations are exceptions from the general rule that a rules-based level playing field is desirable for welfare. In these situations there will generally neither be a rules-based level playing field, nor a move towards an outcome-based level playing field.

5.1 Dynamic efficiency

In this section, we zoom in on the relationship between level playing field and dynamic efficiency. Dynamic efficiency is a measure of improvements in total welfare generated by better and new products (product innovation) and improved production techniques (process innovation). We consider bidding markets in which interaction on rules-based level playing fields may lead to dynamic *inefficiency* and we consider how governments can intervene to restore dynamic efficiency.⁸

In a bidding market, firms submit bids in order to obtain the right to serve a specific product market for a certain time period. For certain bidding markets, procurement processes take place at a regular interval: the right to serve the market is only valid for a specific period of time, after which the license has to be procured again. The government may decide to do so if it wants to be flexible in adjusting for new circumstances or to encourage entry of a new, more efficient, entrant.⁹

Laffont and Tirole (1993) argue that the government may want to create a rules-based unlevel playing field to solve the hold-up problem in the case of repeated procurement processes on a bidding market. The hold-up problem means that the current license holder may decide to invest less than what is socially optimal, because he is not certain to keep the license after the next procurement process (Williamson, 1976). The hold-up problem is especially a concern if investment is non-contractible. Laffont and Tirole argue to solve this problem by creating a rules-based unlevel playing field, giving the incumbent an advantage in the procurement stage. A potential entrant will only obtain the franchise license for the next period if he proves to be much more efficient than the incumbent.¹⁰ Usually, the playing field is also

⁸ For the sake of simplicity, throughout this section we will ignore the following well-known trade-off between dynamic efficiency and static efficiency. Several economists claim that there is an inverted-U relationship between market concentration and innovation: innovation in moderately concentrated markets (oligopolies) is higher than in both very concentrated industries (such as monopolies) and very competitive industries. (See e.g., Aghion et al., 2002.) This implies that there may be a trade-off between static efficiency and dynamic efficiency, as for static efficiency it could be optimal to have the market serviced by many firms, whereas dynamic efficiency requires just a few.

⁹ The reader may wonder whether there is a link with our case study on the auctions for petrol stations (see Chapter 9). In fact, there is no link: the auctions for petrol stations are about static efficiency, this chapter is about dynamic efficiency.

¹⁰ Laffont and Tirole's result depends on the transferability of the assets. If assets are non-transferable, the incumbent may have a large advantage in the procurement stage so that it still could make sense to favour potential entrants.

not outcome-based level as the incumbent has (*ceteris paribus*) a higher probability to obtain the license than a potential newcomer. See the box below for an example of the hold-up problem.

As we have argued in chapter 4 on static efficiency, there is one important reason for government to be cautious with tilting the playing field in favour of a particular type of firms: the hazard of government failure. See also Aghion and Howitt (1998) for potential sources of government failure in the specific case of targeted R&D subsidies.

The hold-up problem and the allocation of licenses for commercial radio stations

Sometimes incumbent firms use the theory of hold-up in order to convince the government to give them an advantage in procurements. An example in this respect is the market for commercial radio stations.

In the past few years, the Dutch parliament discussed extensively how to reallocate licenses for commercial radio stations. The government proposed to auction these licenses to the highest bidder. However, the radio stations that currently owned a license argued that this was unfair: they had invested in their brand name and in the familiarity of radio listeners with their channel. They feared that potential newcomers would outbid them in the auction so that these could free-ride on their investments. The incumbents claimed that they should have an advantage over newcomers in the reallocation process. In other words, they argued for a rules-based unlevel playing field.

At first sight, this argument seems to be in line with the economic literature. However, there is a subtle difference between the reasoning put forward by Laffont and Tirole, and the arguments of the incumbent commercial radio stations: Laffont and Tirole take an *ex ante* view, i.e., they consider the situation before investment decisions are made. In contrast the radio stations reason from an *ex post* point of view, i.e., given that they had invested, they claimed to need an advantage in the reallocation process. Clearly, this argument does not make sense: at the moment they obtained the license, they knew that it was only valid for a fixed number of years and that they might only harvest from their investment for this limited time period. To prevent the hold-up problem in the future, it is possible to take account of it in the new contracts.

5.2 Countries differ in their preferences

Several governments levy taxes, set environmental standards, and in many other ways make the rules for firms operating on a single international market. Thus, there are, contrary to what we have assumed so far, several jurisdictions sharing a single playing field. This may change the perspective on the desirability of a rules based level playing field. Since national preferences differ (e.g. with respect to the optimal company tax burden, labour legislation or the optimal stringency of environmental legislation), one may need to allow discretion in national policy making.

National policy making often has a significant international impact since countries are linked by the international market in which their firms operate. If a country raises its taxes or accentuates its environmental legislation, then the companies in this country lose competitive power. In addition, differences between tax burdens and stringency of environmental legislation

cause investment to flow towards tax and pollution havens that do not necessarily yield the highest gross return. This implies that governments should take the policies of other countries into account, when they design their own national policy. Just like firms, they play a game of their own, dubbed ‘tax competition’ if it concerns taxation, and ‘ecological dumping’ if it involves lax environmental legislation.

International spillovers reduce the margin for discretionary national policy making. In the extreme case, single countries have no power whatsoever. Razin and Sadka (1995) show, for example, that in the face of tax competition the optimal capital income tax rate for a small open country with a fully integrated capital market equals zero, even if the country has a strong preference for public goods provision. The same holds true, *mutatis mutandis*, for ecological dumping. Clearly, if there is no margin for discretionary national policies, there is no reason why coordination should allow for differences between national preferences, and harmonisation is most likely optimal. In such an extreme case, international spillovers do not alter the general desirability of a rules based level playing field.

The hitch in this reasoning is the extreme force of the international spillovers. In practice, only a few countries qualify as small and open, and the capital market, in spite of ongoing integration, is still divided in national segments. Moreover, agglomeration externalities – advantages of clustering of economic activity – often create a ‘lumpy world’ in which capital is mobile *ex ante*, but locked into agglomerations *ex post*. This makes tax competition and environmental dumping less extreme than in most stylised theoretical models. Thus, there will be a margin for discretionary national policy making, even for small and open economies.

In short, differences between national preferences imply that the optimal form of coordination is generally partial, and does not involve full harmonisation. With respect to tax competition one can think of an EU minimum corporate income tax rate instead of a full harmonisation of corporate income tax rates; with respect to ecological dumping one can think of emission targets instead of full harmonisation of environmental legislation. Partial coordination implies that firms from different countries face different tax rates and are subject to different laws. The optimal playing field in rules is unlevel.

Similar issues arise in other cases in which the jurisdiction of one government is smaller than the market. For instance, if companies operate on a national market and regulation differs between municipalities. See also section 2.2.

5.3 Equity considerations

The preceding sections considered cases in which the focus was on efficiency. But even if a market is efficient, there can be a further argument for government intervention: income distribution among citizens (equity). What are the consequences in the analysis of level playing field issues when we add equity as a government goal?

There are several types of level playing field issues in which equity considerations play a role. Section 5.2 discussed that governments may set different tax levels, in accordance with the differences in preference regarding income redistribution. There are also examples of equity-considerations within one jurisdiction. For example, many countries have a universal service obligation in postal services. The incumbent postal service company has the obligation to deliver mail to every address in a country, including the remote addresses. This creates a rules-based unlevel playing field, since new postal service companies do not have this obligation.

Often there is a trade off between equity and efficiency. The government has to weigh the effects of a policy option on efficiency *and* equity in order to know whether it is beneficial for welfare. There are two situations in which equity-considerations may play a role in a level playing field issue.

First, an asymmetry in rules may be the result of different equity preferences between jurisdictions. As an undesired side effect, the asymmetric rules may affect efficiency. The effects are described in chapter 3: Asymmetric rules can result in lower static efficiency if they favour the cost-inefficient firms. This trade off between equity and efficiency is not present when it is the other way around: asymmetric rules can result in higher static efficiency if they favour the cost-efficient firm.

Bundesverband Deutscher Banken (the German bank organisation) neglects the potential trade off between equity and efficiency when it pushes for lower taxes at home. It states that “Taxes have a decisive influence on the competitive power of the economy and citizens. A too high tax burden limits the initiative of people, reduces the cost-effectiveness and the international competitive power of enterprise [...] In order to strengthen the competitive power and the growth of the economy, a further lowering of tax levels is needed.” (Translated from German) The high taxes in Germany are, however, connected with the preference of income redistribution. Chapter 7 analyses the plea for lower taxes in Germany and concludes that is ambiguous whether a tax cut would increase welfare.

The second situation in which equity-considerations may play a role in a level playing field issue is when asymmetric rules are desirable for efficiency. As an undesired side effect, the asymmetric rules may affect equity. The fact that a market is efficient says nothing about the distribution of income.

In level playing field issues between firms, the influence of asymmetric rules on equity is only indirect. The reason is that the equity considerations concern individuals, whereas the asymmetric rules concern firms. Individuals get their income from labour and capital. Asymmetric rules for firms will have an indirect effect on income distribution through the individuals that get (part of) their income from labour and capital in the firms concerned. It is

not possible to make general statements about the direction of the influence of the asymmetric rules on equity, but it is possible to say something about it on a case-level. An example is a market of shipbuilders in which only shipbuilder A receives a subsidy and other shipbuilders do not. The subsidy for shipbuilder A will indirectly tilt the income distribution towards individuals that work at shipbuilder A and individuals with shares in shipbuilder A. At the same time, individuals that work at or have shares in other shipbuilders will lose. Moreover, all taxpayers A have to pay for the subsidy.

Level playing field issues between individuals may have direct consequences (instead of indirect), as is shown in the box below.

Individuals as players

The specifications and general welfare consequences of level playing field issues also apply to individuals. The starting point for dealing with a level playing field issue between individuals can be the same as with issues between firms.

- Generally, individuals do not face an outcome-based level playing field, since individuals have different characteristics. Individuals may differ in their talent or in the value they attach to things. An example of a different valuation is that somebody who loves Van Gogh is willing to pay a higher price for a painting of Van Gogh than somebody who is only interested in Mondriaan. Individuals may also have different possibilities to operate on a market. For example, someone who lives in the country side incurs higher shopping costs to select the product with the best value for money than someone who lives in a city with a high density of shops.
- Generally, individuals face a rules-based level playing field, as symmetric rules are in line with the basic principle of non-discrimination (see legal restrictions in section 4.4.2). In certain situations, however, individuals face asymmetric rules. Often, asymmetric rules regarding individuals are intended to change income distribution. An example is the subsidy for house rent, which is only available for low-income households. As a result the outcome-based level playing field is levelled to a certain extent and there is a rules-based unlevel playing field.

Equity considerations in the case of individuals are the same as in the case of firms, except that the consequences are direct instead of indirect. This means that there may be a trade off: the government can hamper equity if it erases asymmetric rules in order to encourage static efficiency. And the other way around, asymmetric rules that are intended to change equity can (as a side effect) also affect efficiency.

5.4 Conclusion

Welfare often benefits of a rules-based level playing field, but there are three situations in which an unlevel rules-based level playing field may be preferable:

- In some situations competition on a rules-based level playing field leads to dynamic *inefficiency*. The government may restore dynamic efficiency by implementing a rules-based unlevel playing field with policy instruments such as asymmetric procurement-rules. However, the success of instruments that create a rules-based unlevel playing field may be jeopardised by several sources of government failure.

- When preferences between countries differ, the national governments may wish to set different rules. However, a government also needs to consider international spillovers, since asymmetric rules influence the competitive power of national companies in international markets. This implies that governments should take, in designing their own national policy, the policies of other countries into account. In extreme cases, competition between government policies may result in a race to the bottom. In more general cases, in which the mobility of resources is limited, there is a margin for discretionary national policy making. Then, the optimal playing field in rules is unlevel.
- Asymmetric rules may sometimes be desirable because of equity considerations (income distribution among citizens). As an undesired side effect, the asymmetric rules can affect efficiency. In many cases there is a trade off between equity and efficiency. It is not possible to make general statements about the effects of asymmetric rules on equity, because the influence of asymmetric rules on equity is only indirect.

PART II. Case-studies

The case-studies in the second part of the report provide examples of the general analysis in the first part.

The first case discusses the market for secondary vocational and higher education (chapter 6). The case is relevant for two reasons. It is an example of the conclusion in part I that a rules-based level playing field can enhance welfare in a market in which asymmetries in government rules are not related to market failure. Moreover, the case shows that level playing field issues are conceptually the same for non-profit organisations as for profit maximising firms.

The second case looks at the arena for multinational enterprises (chapter 7). The case provides an example of the additional considerations that need to be taken into account when countries differ in their preferences. This case also considers the effects of policy options on equity. Moreover, the case shows that level playing field issues can also play a role in the interaction between governments.

The third case deals with the electricity market (chapter 8). It illustrates that several level playing field issues can arise within a sector with considerable market failures. By unravelling the type of market failure in each level playing field issue, it becomes clear why certain policy options are desirable for one situation and not for the other.

The last case discusses the auctions of petrol stations (chapter 9). The case explains that certain types of heterogeneity between firms (incumbent-entrant, ownership, information) can be fine in most markets, but can create market failure in the case of auctions. The case discusses several options to increase competition.

6 Secondary vocational and higher education

This chapter focuses on secondary vocational education and higher education. More specifically, it focuses on the provision of educational programs that entitle successful students to a legally protected qualification (we refer to these programs as accredited educational programs). These educational programs are provided by two types of educational institutes, publicly funded and non-funded institutes. The two types face different government regulation. In this chapter we consider the arguments for the legal distinction between, and thus the differential treatment of, funded and non-funded education providers. Should the government remove this distinction and introduce a rules-based level playing field?¹¹ We analyse this question using the framework developed in the first chapters.

This chapter discusses the following issues. How do the concepts of level playing field apply to the field of education (§6.2)? How do the level playing field concepts relate to the government goals and market failures (§6.3)? What are the consequences of an asymmetry in the rules (§6.4)? What are the policy options (§6.5)? What conclusions emerge for education policy (§6.6)? This case illustrates that a rules-based level playing field is preferable for welfare if there are no market failures related to the heterogeneous characteristics of institutes.

6.1 Introduction

In secondary vocational education as well as in higher education, the supply of accredited educational programs¹² is characterised by extensive government intervention. The government subsidises institutes for (some of) their educational programs, and regulates entry of institutes to the sector and behaviour of the institutes on the market (e.g. through accreditation of educational programs). This intervention may be justified by market failures such as external effects and the difficulty for prospective students to observe educational quality. External effects may arise in various ways: more highly educated individuals increase the productivity of co-workers, enhance social cohesion and are less likely to engage in criminal activities. When individuals do not take these effects into account, they will invest too little in education. Subsidies may correct for this. Accreditation enhances transparency on the educational market, and thereby stimulates informed educational choices and competition between educational providers.

¹¹ The concept of a level playing field has also been used in the context of public educational institutes using public funds to compete on the market for private education. Such use of public funds is thought to result in unfair competition. In other words, there would not be a level playing field in the market for private education.

¹² We define accredited educational programs as programs that lead, upon successful completion, to legally protected qualifications. Besides the accredited educational programs all kinds of training programs exist, partly aimed at the same potential students. Accredited institutes and publicly funded institutes sometimes offer such training programs as well. A third category of education providers is also active on this market: private institutes that do not offer accredited educational programs at the moment, do not receive funding (nor do their students), and are not subject to educational laws. These institutes are also potential entrants on the market for accredited education. The same accounts for foreign institutes.

But is the current government policy optimal? The government paper “Grenzeloos leren: Een verkenning naar onderwijs en onderzoek in 2010” points at several current weaknesses. In secondary vocational education improvements are possible for quality, freedom of student choice, and the match between the educational programs being offered and the demand by both students and employers. Moreover, the number of students dropping out before graduation is too high. In higher education similar problems occur. Quality is generally good, but parts of higher education can be upgraded. Moreover, top-institutes (in international perspective) are absent. The students have a too limited choice between programs with different duration, combination of working-learning or educational methods. Transparency is too low as well.

These weaknesses may be improved by encouraging competition between educational institutes. Currently competition seems to be weak: at least some institutes can be characterised as regional monopolists.¹³ This applies both to secondary vocational education and to higher education. Such a monopolistic situation limits the freedom of choice for students. Moreover, it provides institutes with weak incentives to attract students, and thus to provide high quality at low prices. Stronger competition may improve the incentives for institutes to differentiate and to reveal information about the differences. On the other hand, stronger competition has some potential downsides as well. These are primarily due to the special characteristics of education. For example, the quality of education may be hard to observe by students and competition may increase the incentives to abuse this lack of knowledge. CPB (2001b) has tentatively concluded that enhancing competition, and tackling the drawbacks by additional policy measures, seems promising.

What causes the monopolistic situation? It is partly the consequence of past government policy aimed at concentration of publicly funded education in large institutes. This policy has reduced the number of institutes, and thereby competition between institutes.¹⁴ More important for the level playing field discussion, regional monopoly power is also thought to result from the distinction between publicly funded and non-funded institutes, and the fact that access to public funding is limited. Lack of government funding gives non-funded institutes a competitive disadvantage on the market for accredited education. It is doubtful whether the less stringent regulation makes up for this.

6.2 The educational playing field: level or not?

In what ways are funded and non-funded institutes treated differently by the government? Do the differences imply a rules-based level playing field, or not? Do the differences imply an outcome-based level playing field, or not?

¹³ See, e.g. CPB (2002).

¹⁴ On the positive side, concentration stimulates the realisation of economies of scale (that is, if they exist)

The differences between funded and non-funded institutes are twofold:

- publicly funded institutes may receive subsidies from the government for their educational programs, non-funded institutes do not receive government subsidies;¹⁵
- publicly funded institutes are subject to additional regulation compared to non-funded institutes. The additional regulation concerns such issues as tuition fees for full-time students, management and organisation, and the legal status and participation of students.

New educational programs of publicly funded institutes are not automatically funded by the government. To be eligible for funding, new programs have to pass the test of macro-efficiency. This requirement is imposed because the government thinks that too many similar educational programs (by different publicly funded providers) within a region are not desirable. According to the government, this would result in unnecessary duplication of fixed costs, and consequently to inefficient government spending on education. However, the positive effect of entry is increased competition. Therefore, it is not possible to say in general that duplication of fixed costs reduces welfare. Another point of attention is that the precise meaning of macro-efficiency, and the correct way to implement it, is not entirely clear (see SER, 2001). For example, how many is 'too many'?

Institutes are free to apply for the status of funded institute. The government cannot forbid institutes to enter the group of publicly-funded institutes, although such entry would require that the new institute gets mentioned in the law itself (all public funded institutes are listed in the law). In the past, however, entry into the group of publicly funded institutes has hardly occurred. Apparently the additional regulations combined with the possibility that part of the educational programs may not pass the test on macro-efficiency, make entry unattractive.

The educational playing field described above is neither a rules-based nor an outcome-based level playing field, as we will explain below.

No rules-based level playing field

The reason why there is a rules-based unlevel playing field concerns the test on macro-efficiency. This check implies that institutes providing a new educational program (new for the institute) are sometimes excluded from funding for this program because the government judges that there will be too many similar educational programs. Hence the requirement of macro-efficiency discriminates against new programs. Existing programs face some protection.

The fact that funded and non-funded institutes face different regulations concerning their conduct is frequently interpreted as an asymmetry in the rules. In a strict sense this is not correct, however, because every institute may choose to apply for the right to funding and

¹⁵ Whether the program is provided by a funded or a non-funded institute is irrelevant for student support. Students attending an accredited educational program are in principle eligible for student support (unless they do not qualify due to personal characteristics).

satisfy the additional rules. No institutes are excluded up beforehand. The asymmetry in rules is related to characteristics that can be changed by the institutes themselves. The question then is which bottlenecks deter institutes from such a change. One bottleneck is the macro-efficiency requirement discussed above. Another possibility is that the change in status brings about various (transition) costs, in which case the distinct treatment of funded and non-funded institutes may be interpreted as an asymmetry in rules.

No outcome-based level playing field

Can the educational playing field be characterised as an outcome-based level playing field?

This question requires an answer to two underlying questions: are there the institutes heterogeneous; if so, do the asymmetric rules described above tackle this heterogeneity?

One obvious potential source of heterogeneity between institutes is the distinction between incumbents on and (potential) entrants to the market for a specific educational program. Due to barriers to entry entrants face a different strategy space than incumbents. The standard examples of entry barriers are economies of scale, sunk costs by the incumbents, absolute cost advantages of the incumbents, and consumer switching costs. Which factors are likely to be relevant on the educational market?

Consumer switching costs may play a role. Students already enrolled in an educational program face costs when switching to a new education provider: education programs will probably not link up exactly with each other, meaning the student will have to spend extra time in education. These switching costs provide market power to the educational institutes over their current students. This market power seems small, however. The reason is that not many students switch. Much more important is competition for new students.

Another potential barrier to entry concerns imperfect information about the quality of newly provided educational programs. Entrants to a particular educational market have not had the possibility to build up a good reputation. Hence, these entrants are not likely to attract many students from scratch. The relevance of this entry barrier may be limited when a good reputation of an institute on the markets for other educational programs extends to the new accredited educational programs this institute wants to offer.

Overall, switching costs and reputation effects (which may bring about market failures related to the heterogeneous characteristics of institutes) do not seem to be important.

Since heterogeneity between educational institutes do not seem to be related to market failure, the asymmetries in the rules observed earlier can not be targeted at alleviating heterogeneity. In other words, the asymmetric rules can not serve to move the market towards an outcome-based level playing field. Instead, they will distort a possible outcome-based level playing field. Think of how the rules relate to differences in cost-efficiency between institutes. A non-funded institute which is as efficient as a funded institute has less opportunity of attracting students,

since it has to charge students the full costs. Clearly the rules do not contribute a move towards an outcome-based level playing field.

Policy interpretation of level playing field

In the field of education, policymakers seem to tie the notion of a level playing field to non-discriminatory rules. This becomes clear from the following quote referring to the introduction of a level playing field in secondary vocational education (translated from the Dutch cabinet paper “Grenzeloos leren”):

“Educational programs provided by existing or new private institutes can receive government funding, provided they satisfy the same quality requirements and work under the same conditions. (OCW, 2001, p.34)’

Hence, the government considers the possibility of eliminating the discrimination between education providers concerning entitlement to public funding for educational programs. Whether this includes abolishing the test on macro-efficiency is not clear. Moreover, levelling the rules begs the question which rules should apply equally to all institutes: the ones that currently apply to the funded institutes, the ones that currently apply to the non-funded institutes, or other rules? This is a question about deregulation, and not a question about level playing field. Therefore, this question will not be addressed in this chapter.

6.3 The government’s goals

What are the policy goals in secondary vocational and higher education? In general terms, the government bears responsibility for access to education, the quality of education and efficiency of (public spending on) education:

- access: a broad supply of educational programs should be guaranteed, participation of students should not depend on financial background (but may depend on intellectual capacities);
- quality: good education, good match with student demand, good match with labour market demand, innovative;
- efficiency: high quality at low prices/costs, prices reflecting the (marginal) costs.

Given these policy goals, what should government policy look like? Why might government subsidies and government regulation improve upon a situation in which education is provided by the market? The instruments chosen by the government should address the market failures that justify government intervention. Do market failures justify public funding and regulation?

Government subsidies may be justified by the presence of external effects and by the goal of repairing the detrimental effect of taxes on investments in education.¹⁶ Economists have found it hard to quantify the external effects from additional educational investments, or even to provide convincing evidence of the existence of positive external effects. This doesn't mean that they don't exist; it means that there is a lot of uncertainty. The tax argument has only recently been studied by economists: the first impression is that this argument does not justify additional public subsidies for (higher) education.

Quality regulation can be justified by the information problems on the market for educational programs. Education is an experience good: *ex ante* students cannot observe the quality of education they will receive, but will experience this quality only during their education (and even then possibly imperfectly). In the competition for students, institutes (both profit and non-profit) may be inclined to abuse this information-asymmetry by saving on investments in non-observable quality. The reputation mechanism will partly counter this incentive, but some need for regulation may remain.

Entry regulation may be justified by the possibility of inefficient entry. This may occur in the presence of fixed costs of production. Institutes will only enter when their expected income stream (partly from government subsidies) makes up for both fixed and variable costs. The income stream of entrants will mainly come about by 'stealing' students from incumbents. These private benefits for the entrant may be larger than the social benefits from the extra competition brought about by the entrant. In that case limiting entry may be socially beneficial.

6.4 Consequences of asymmetry in rules

How do the market failures relate to the level playing field issue? Do they ask for asymmetry in government rules? The market failures are not related to heterogeneity between providers of education. Hence, from the market failure point of view, there seems to be no case for discriminatory rules. There is no reason why quality requirements for educational programs to get accredited (which need not be the current requirements) should not be enough to be eligible for public funding. In other words, there is no reason to tie public funding to additional regulation. Indeed, the discriminatory rules are not meant to tackle market failure: they are primarily an outflow of historical decisions. Inefficient entry (if it is relevant at all, given the references to regional monopolies and the desire by some to increase competition) is not related to heterogeneity between institutes. Inefficient entry may be a reason to limit entry, but there are no strong reasons why the incumbents should be favoured above entrants that have proven their capacities in other educational markets.

¹⁶ Sometimes the goal of access is also seen as a justification for subsidies. The goal is in itself legitimate, but public student loans with income-dependent repayment seem a more efficient instrument than subsidies. Such loans directly target the relevant market failure: credit and capital market imperfections due to asymmetric information.

Apparently, asymmetric rules are not likely to be beneficial. The asymmetric rules may even be costly to society. The requirements attached to the right to funding, including the check on macro-efficiency, seem to deter private institutes from applying for funding. In other words, the requirements function as a barrier to entry. Consequently the publicly funded institutes may sometimes be considered as regional monopolies. This monopolistic situation may provide these institutes with insufficient incentives to provide an optimal price/quality relation. Moreover, the monopolistic situation directly implies limited variety of educational providers for the students.

6.5 Policy options

Above we concluded that asymmetric rules seem to have costs, but no benefits. Relevant market failures are not related to heterogeneities between educational institutes, implying that asymmetric rules are not desired. All in all, the appropriate road ahead seems to be to bring about a rules-based level playing field: all educational programs have to meet the same quality criteria in order to be funded. In a rules-based level playing field the right to funding is the same for entrants as for incumbents, which implies that incumbents may lose their protected position.

Suppose that creating a rules-based level is (currently) a bridge too far. Does this mean that the current situation of regional monopolies should be taken for granted? Not necessarily. There are several policy options for stimulating competition that do not require abolishing the current distinction between publicly funded and non-funded institutes:

- general policy measures like government provision (or subsidies for the provision) of more information about educational programs, especially their quality;
- reducing the asymmetry in rules for funded and non-funded institutes, such as less difference in subsidies for (accredited) education at non-funded institutes compared to (accredited) education at publicly funded institutes;
- policy measures aimed at enhancing competition between the current publicly funded institutes, e.g. by strengthening the dependence of public funding on outcome measures and productivity measures. This policy measure does not tilt the playing field between funded and non-funded institutes.

The welfare gains that may be attained by these measures are not clear; the precise costs and benefits of these policy measures require further analysis. The first and third policy options are also fruitful in case the government aims to create a rules-based level playing field after all (no regret options).

General policy measures

The provision of reliable information enhances transparency and enlarges the sensitivity of students for differences between institutes, thereby leading to fiercer competition. The sensitivity of student demand may also be enhanced by extending the possibilities for students to attend single courses at other institutes. This may enhance the possibilities of entrants in an educational market to attract students, and fasten the pace at which information about new educational providers and new educational programs becomes available.

Policy measures to change the asymmetry in subsidies

Public funding of institutes, and thereby the discrimination between funded and non-funded institutes, can be diminished in (at least) two ways without changing overall funding to education:

- transfer part of the budget for institute funding to the budget for student support;
- transfer part of the budget for institute funding to vouchers, targeted at students that currently enrol in publicly funded institutes, that can be spent at either publicly funded or at appointed non-funded institutes.

Both options may stimulate the sensitivity of students for quality differences between publicly funded and non-funded institutes, since the financial consequences of this choice become smaller (unless private institutes raise their prices substantially in reaction to the policy).

The first option is not efficient in achieving this result, however. The reason is that students at non-funded institutes in the old situation will receive more government aid in the new situation. Their choice of education provider, however, is not likely to be affected. On the other hand, students at publicly funded institutes are (*ceteris paribus*) confronted with an increase in the price of education: part of the funds spent on 'their' education is redistributed to students at non-funded institutes. This may induce some students to opt out of education. For students that will still enrol in education, the choice for non-funded institutes becomes (*ceteris paribus*) more attractive, inducing the publicly funded institutes to improve the quality of their education. The fact that this policy option includes a transfer of public funds to students at non-funded institutes without affecting their choice indicates that a more targeted transfer of funds may be desirable.

The second option aims at targeting the public funds to the same students as before the transfer, but giving them more freedom in their choice of provider. The idea is that students that participate in publicly funded education under the current system (and only those students) will receive a voucher that can be spent at any funded or non-funded institute. Of course, this requires that these students can be characterised on the basis of individual characteristics. Under this system, students at non-funded institutes receive no extra funding and the price of education does not rise for students at publicly funded institutes. Moreover, more students will

be induced to switch over to non-funded institutes. In other words, competition between the two types of institutes will increase more than under the first transfer option. Overall: no redistribution of public funds between students, and a larger effect on student choice and competition.

Alternative policy measure to increase competition

Stronger dependence of public funding on past performance may strengthen the incentives of the publicly funded institutes to provide quality. One possibility is to let the accreditation agency distinguish a number of 'quality rates', and assign a quality rate to each educational program. Funding tariffs may then depend on the quality rate: the higher the quality rate a program has, the higher the funding tariff for students enrolled (or diploma's granted) in this program.

6.6 Conclusion

The educational playing fields of this chapter, i.e. the markets for accredited educational programs in secondary vocational and higher education, can neither be characterised as a rules-based level playing field nor as an outcome-based level playing field. The government applies different rules to funded and non-funded institutes, and also favours incumbents above entrants. Since there are no major heterogeneities between the various educational providers, the asymmetry in rules also implies that there is an outcome-based unlevel playing field. Market failures in the educational markets of this chapter are not related to possible differences in the characteristics of educational providers, implying that the asymmetric rules do not provide benefits from tackling market failures. The asymmetries in the rules do, however, have their costs: market power for the incumbent publicly funded institutes.

The obvious policy option that emerges from this picture is to bring about a rules-based level playing field: all educational programs have to meet the same quality criteria in order to be funded. In a rules-based level playing field the right to funding is the same for entrants as for incumbents, which implies that incumbents may lose their protected position. If creation of a rules-based level playing field is not yet viable politically, the prime benefit of introducing a rules-based level playing field, more competition, can also partly be brought about by some alternative policy options. Alternatives are increasing transparency and lowering switching costs of students, decreasing the level of funding of publicly funded institutes and increasing funding of students, and making public funding of institutes more dependent on educational performance. The precise costs and benefits of these policy measures require further analysis.

7 The arena for multinational enterprises

Multinational enterprises often plead for a level playing field. A complication is that the jurisdiction of any single government is limited to its own country. Moreover, equity considerations should not only involve the impact on income distribution within countries, but also between countries. This chapter illustrates that neither a rules-based level playing field nor an outcome-based level playing field is likely to be favourable for welfare if differences in preferences between countries are taken into account.

This chapter discusses the following issues. How do the concepts of level playing field apply to the field of multinational enterprises (§7.2)? What are the policy goals (§7.3)? What are the consequences of creating a rules-based level playing field (§7.4)? Are there other policy options (§7.5)? What are the considerations regarding policy competition between governments (§7.6)? The answers on these questions are summarised in the conclusion (§7.7).

7.1 Introduction

Companies operating on international markets often complain about unfair competition. Their foreign competitors have, so they claim, to comply with less stringent regulation with respect to the environment or labour standards. Moreover, they allegedly receive state aid or are subject to lower capital income tax rates. This gives them a cost (or competitive) advantage, allowing them to capture a disproportionately large share of the international market.

As a result of these asymmetries, companies from high-cost countries often advocate a 'level playing field.' It invariably requires less regulation, more state aid, lower tax rates at home, or the reverse abroad. Let us consider a few examples. The white paper of the European Commission on chemicals policy admits that stringent regulation to protect human health and the environment is constrained by the maintenance of the competitiveness of the EU chemical industry. In fact, competitiveness is explicitly incorporated as a chemicals policy objective (European Commission, 2001a).

A reference to a plea for a level playing field in labour standards is made in a recent report by Evaluation and Data Development, a think tank of the Canadian government. It states that employers tend to stress the level-playing-field argument on a global basis. They point out that Canada's most important competitors reside in the United States, not Europe, and therefore reject the European model, with its emphasis on employment security, and its limited ability to lay off workers (Evaluation and Data Development, 1998).

Robin Cook, the former British foreign secretary, has addressed the problem of state aid. He took up the gauntlet for British industry by stressing that the British are the ones who have been demanding repeatedly that one must make sure that there are no hidden subsidies within the EU: "We don't do it at home, we want to make sure that our companies at home that stand on their own feet, that trade in their own way, can compete on a level playing field and, indeed, we

have made considerable progress at this summit in getting agreement that there will have to be a reduction in state aid. That is good for British businesses that don't get state aid but sometimes are asked to compete with companies that do" (Britain in Italia, 2000).

Like many national business organisations, the German Bank Organisation (Bundesverband Deutscher Banken, 2002) pushes for lower taxes at home. It states that "Taxes have a decisive influence on the competitive power of the economy and citizens. A too high tax burden limits the initiative of people, reduces the cost-effectiveness and the international competitive power of enterprise [...] In order to strengthen the competitive power and the growth of the economy, a further lowering of tax levels is needed. " (Translated from German).

All these examples are implicit or explicit pleas for a level playing field. Should they be honoured? And if so, under what conditions? In finding answers one should know exactly what constitutes a level playing field, who are the winners of its imposition, who the losers, and how gains and losses should be weighed.

7.2 The playing field for multinational enterprises: level or not?

The set of examples of pleas for a level playing field could be extended almost indefinitely. They tend to have one feature in common: it is hardly ever clear exactly what advocates mean when they use the term. We attempt to pin down the concept by staging the case of corporate income taxation.

Bundesverband Deutscher Banken seems to have a point: if German taxes are above the European average then the international playing field appears to be unlevel to their disadvantage. Some details need to be filled in. Chapter 2 explained that in a wide range of environments there are *firms* who *compete* on a *playing field* to make *profit*. Furthermore, players in the examples above claim that the playing field is unlevel, and that the government can *improve* the situation by creating a *level* playing field. In this section we ask who the players are, how they compete, what the playing field is, and in what sense it is unlevel. In the next section we ask how the government can improve the situation.

These questions are less straightforward than appears at first sight. One complication is that the international market on which multinational enterprises compete are shaped by tax systems, while tax systems themselves are shaped by tax competition between national governments (Gorter and De Mooij, 2001). This implies that there is a hierarchy of playing fields: one for multinational enterprises, and another for governments. We focus on the first, but also pay some attention to the second.

The players are the German companies and their foreign counterparts. They compete on the basis of quality and price of the goods and services they produce. Their target or objective is to maximise profits. The playing field is most naturally defined as the relevant antitrust market, including national and international taxation and legislation, as well as technological,

geographical, and cultural features that impact upon the ability of firms to produce goods and services of high quality or low prices.

A level playing field is hard to pin down. At its extreme it encompasses symmetry in all dimensions that characterise the international market. This is unattainable since at least geographical differences between countries cannot be eliminated. German companies will never be competitive on, say, the international cotton market, simply because German is too cold to grow cotton. Therefore, we restrict ourselves to taxation. This still leaves two possible interpretations open: (1) symmetry in taxation, which boils down to a 'rules-based' level playing field; (2) a difference between German and foreign taxation that makes German companies on average equally competitive as their foreign counterparts, which can be interpreted as an outcome-based level playing field.

It seems that the Bundesverband Deutscher Banken has the first interpretation in mind as it complains that German taxes are above the European average. This complaint should not, however, be interpreted as harmonisation of German and foreign tax systems. Since countries cling to their sovereignty in taxation, home and foreign companies will always be subject to different tax treatments. It is therefore not helpful to brand any asymmetry in taxation as contributing to unlevelness. In order to give a rules-based level playing field empirical content, one should allow for example a generous depreciation allowance to offset a high statutory tax rate. Therefore, we define a rules-based level playing field as equality of the effective corporate income tax rate for German and foreign companies, irrespective of how this equality comes about.¹⁷

A move towards an outcome-based level playing field would boil down to German tax breaks ironing out non-fiscal disadvantages of German companies (or a tax increase in case of advantages). For selected industries this used to be common practice. Tax relief for shipbuilding is a notorious example, not only in Germany but in many European countries. It was intended to allow European shipyards to stand up to their Asian competitors. Elsewhere advocates of outcome-based level playing fields continue to voice their concerns. For example, Brian Jenkins calls for tax breaks for Australian tenderers since foreign competitors are capable of outbidding them because of access to cheaper steel inputs (Jenkins, 1998).

In short, German and foreign companies compete on the basis of quality and price on the international market. The playing field is unlevel under a rules-based specification since German effective tax rates are higher than the European average. The Bundesverband Deutscher Banken claims that the German government can improve the situation by creating a rules-based a level playing field. We will turn to this question in the next section.

¹⁷ There are, however, many different effective tax rates, each with its distinct interpretation, and each corresponding to a different country ranking (Gorter, 2001).

7.3 The government's goals

The Bundesverband Deutscher Banken appeals to notions of efficiency and fairness. After all, efficient German companies may be pushed out of the market, and it seems unfair that by having to pay higher taxes at home they are put at a disadvantage compared to their foreign competitors. Does this imply that the German government should respond to the plea for a rules-based level playing field? In order to find an answer we need to be precise about the goals.

The German government does not promote the interest of German companies only, but that of the German society as a whole. This implies that we should assess a level playing field on the basis of the welfare of the companies as well as the other agents that are not directly involved in the game.

In applied welfare economics it is common practice to subdivide society into a group of agents that predominantly rely on wage labour, and a group of agents that draw a significant part of their income from interest, dividend and capital gains.¹⁸ We will call the first group wage labourers and the second shareholders, although one person may be both types of agents at the same time (their labour income often exceeds their capital income in absolute terms). It is also important to note that there is a large (albeit decreasing) home bias in international portfolio's (Lemmen, 1998). This implies that the interests of German shareholders by and large coincide with the interests of German companies. Moreover, for redistributive purposes it is important to keep in mind that shareholders earn a relatively high income, where we define income as the power to dispose of private *and* public goods and services.

How the interests of these agents should map onto the criterion 'social welfare' is by now well understood. The income of either group separately as well as income equality should have their place (Atkinson and Bourgingnon, 2000). Thus the goal of the German government comprises:

- the income of wage labourers;
- the income of shareholders;
- income equality.

How does this relate to 'efficiency' and 'equity' as defined in chapter 5? Under certain assumptions the income of wage labourers and income of shareholders can be summarised by their mean, which is to be interpreted as efficiency. After all, the higher it is, the more efficiently labour and capital must have been allocated over the production of private and public goods. Income equality is, of course, tantamount to equity.

The instrument of the German government to achieve these goals is the tax system. It attempts to provide an optimal amount of public goods and services relative to private

¹⁸ For an example closely related to the present discussion see Lopez, Marchand and Pestieau (1998).

consumption, and to redistribute income from rich to poor according to national preferences for equity. In principle any tax could serve these goals. Corporate income tax may, however, be particularly important. It generates a significant proportion of total tax revenue and its first incidence is highly redistributive as it falls entirely on shareholders. Even if it strongly discourages investment it may be an optimal tax if the government is imperfectly informed about its subjects' earning capacity (Huber, 1999). Armed with this framework we are ready to assess government policy.

7.4 Consequences of a rules-based level playing field

In 2000 millennium the German government reformed its tax system. It marked the end of imputation of corporate income tax to shareholders, and the end of taxation of holdings in other corporations (Keen, 2002). Thus, the German government strived to move towards a rules-based level playing field for its multinational enterprises by reducing the tax burden on capital income.

Suppose that, in line with these reforms, the German government attempts to establish a full rules-based level playing field for its multinational enterprises by reducing the tax burden on capital even further. What would be the likely economic impact? The tax cut reduces the cost of capital for German companies, at home and to a lesser extent in the rest of the EU. This stimulates investment, and increases their business activity. They capture a larger share of the home as well as the foreign market, and are likely to make more profit.¹⁹ This is of course good news for shareholders. They will see their income increase as a result. Moreover, labour productivity rises because of a larger capital stock. This translates into higher wages. Thus the lower capital income tax also benefits wage labourers.

The tax cut also involves, however, costs. The cut in corporate taxes means a lower level of public provision or a higher tax burden on labour income since the government's budget must balance in the long run. Less public goods is a disadvantage for both wage labourers and shareholders. Moreover, a higher tax burden on labour income directly affects the income of wage labourers, and indirectly that of shareholders since trade unions will be able to pass on some of the burden to employers.

For shareholders the net effect is probably positive. The first incidence of the entire tax cut falls on them, while they share the burden of the lower level of public good provision with the group that predominantly relies on wage labour. Moreover, they carry the burden of the higher taxes on wage labour only insofar the trade unions are able to pass it on to employers.

In contrast, for the wage labourers the net effect is likely to be negative. The first incidence of the higher tax burden on labour income entire tax falls on them, they carry part of the burden of the lower level of public good provision, and they indirectly benefit from the tax cut on

¹⁹ For the sake of simplicity we abstract from international relocation of firms.

capital income only insofar this translates into a larger capital stock, a higher labour productivity, and ultimately higher wages.

It should be noted that in the long run the final incidence of the tax may differ substantially from the first incidence. In particular, capital is internationally mobile in the long run. This enables shareholders to pass on a larger share of the corporate income tax burden to labourers. A tax cut would then materialise as higher wages. So, theoretically, differences in tax burden do not lead to differences in competitiveness in the long run, as the tax differences are compensated by the income of labourers. However, in practise, shareholders appear to be incapable of entirely passing on the tax burden to labourers, even in the long run. In fact, empirical research and ‘guesstimates’ by fiscal economists suggest that roughly two thirds of the final incidence falls on shareholders, and the remaining third on labourers in the form of lower wages (De Mooij, 2003).

Since the tax cut decreases the income of wage labourers, and increases the income of shareholders, income equality decreases. Table 1 summarises these points:

Table 7.1 **Effects of tax cut on income**

	Income
Wage labourers	-
Shareholders	+
Income equality	-

Whether on balance social welfare increases is unclear. A move towards a rules-based level playing field would not necessarily be beneficial to German society as a whole, let alone that a rules-based level playing field would be optimal. In fact, it would be purely coincidental if the trade-off between the interests of wage labourers and shareholders was exactly such that it would justify a reduction equal to the difference between German effective capital income tax rate and that of the rest of the EU. This brings home an important point: a rules-based level playing field in the international arena, in spite of its ‘fairness,’ fails to do justice to national preferences for public goods and equity.

7.5 Other policy options

Are there alternatives to a corporate income tax cut? The German government may support German companies by giving subsidies, or fencing off the home market by raising trade barriers. These alternatives are, however, less relevant within the European context. State aid is restricted by the Acquis Communautaire of the EU, although Member States do have some discretion in granting it. More importantly, new trade barriers are effectively ruled out by free movement of capital, labour, goods and services, the quintessence of the EU. Besides, two hundred years of trade theory have given firms credence to the gains from trade. Thus, policy

makers would probably reject these alternatives even if they were unconstrained by European legislation.

7.6 Policy competition

EU Member States set the effective corporate income tax rates that apply to companies that are competing on the same international market. This implies that their social welfare functions depend not only on their own rate, but on the whole array of rates within the EU. This, in its turn, prompts governments to set their tax rates strategically. Their optimal tax rate depends on other tax rates, which makes it necessary to form beliefs about other governments' tax setting behaviour and respond accordingly. Thus the combination of multiple jurisdictions and a single playing field introduces a hierarchy of games, one played by the companies, and another by governments.

The introduction of tax competition is not trivial. The central tenet of the corresponding literature is that uncoordinated taxation leads to results that may be optimal from the perspective of the individual government, but are suboptimal from a communal perspective (Wilson, 1999). It introduces a potentially important role for tax coordination. This begs the question whether coordinated tax rates should be equal. If so, a rules-based level playing field would be optimal from the perspective of the EU as a whole.

There is one argument in favour of equal tax rates. It would establish fiscal neutrality, which implies a reallocation of production factors towards relatively efficient firms. This increases aggregate EU income. There is, however, also an argument against equal tax rates. The recent history of German public finance reveals that Germany has a relatively strong preference for public goods and redistribution, or at least that the German political system has until recently not been able to translate calls for socio-economic reform into actual reduction of public goods provision and redistribution. Whether German public finance reflects genuine German preferences or not, the principle of subsidiarity should allow Germany to choose its own tax rate.

This is, however, not argue that tax coordination cannot be welfare enhancing. A minimum tax rate may be expedient to prevent governments from engaging in tax competition under false pretences. In general, a somewhat rules-based unlevel playing field may strike the optimal balance between productive efficiency and differences between national preferences. This idea is substantiated by academic research. Kanbur and Keen (1993) show that full coordination may not be optimal in a world with heterogeneous countries involved in tax competition.

7.7 Conclusion

Bundesverband Deutscher Banken, the organisation of German banks, calls for a rules-based level playing field in taxation. In particular, it advocates a German tax reform that would bring the corporate income tax rate of Germany on a par with the effective corporate income tax rates of Germany's most important trading partners. Should this plea be honoured?

If one takes the perspective of the German government, which promotes the interests of German shareholders as well as wage labourers, the case is far from clear cut. In all likelihood, the German tax cut would benefit shareholders, and hurt wage labourers. Thus, a rules-based level playing field has an ambiguous impact on welfare, even if it increases mean income. The lesson to be learned is that, in case of heterogeneous preferences, there is no reason why the optimal trade-off between the interests of wage labourers and shareholders should imply equality between the German and the EU effective corporate income tax rates.

If one takes the perspective of the EU as a whole, tax coordination between Member States is an option. Since a harmonisation of effective tax rates implies fiscal neutrality and hence a more efficient allocation of production factors, a rules-based level playing field may be optimal after all. On closer inspection, this conjecture turns out to be false. A rules-based level playing field does not do justice to differences between national preferences. A somewhat rules-based unlevel playing field may be optimal to accommodate the heterogeneous preferences of Member States.

8 Electricity distribution

This chapter deals with level playing field issues in electricity distribution in the Netherlands. Level playing field issues concern both competition between retailers and (yardstick) competition between regional network companies. Electricity distribution illustrates two notions from the general analysis in part I. First, it illustrates that tackling certain market failures with asymmetric rules is favourable for welfare, while other market failures can be tackled with symmetric rules. Moreover, this chapter shows that asymmetric rules may only be needed temporarily.

The remainder of this chapter is organised as follows. Section 8.1 introduces the electricity distribution sector and touches upon some recent developments. Section 8.2 focuses on level playing field issues in electricity retail, whereas issues regarding level playing field for distribution network companies are discussed in section 8.3. Section 8.4 summarises our conclusions. The outline of this chapter differs from other chapter, because two level playing field issues are discussed. Nevertheless, we follow the usual outline within both level playing field issues. We assess (1) what type of level playing field applies to electricity networks and electricity retail, (2) how government goals are described, (3) what role heterogeneities play and (4) how they may be counteracted by policy measures.

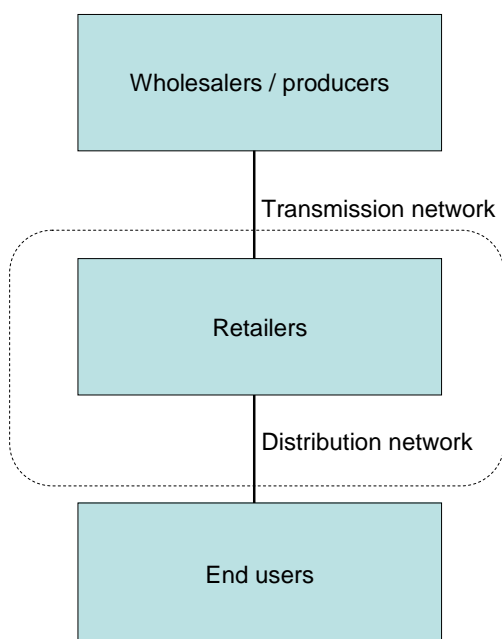
8.1 Introduction

Electricity markets are subject to significant changes. Generation, trade and retail are liberalised, whereas transport of electricity, both on the national and regional level, is subject to new forms of regulation. Many of the issues in the electricity sector are also relevant for other network sectors.

Figure 8.1 shows the industrial column for electricity, from production to end users. The dotted line shows the vertical integration of traditional utilities. In this chapter vertical integration means that two firms have the same owner (which is allowed), although they are legally unbundled into two separate firms (as is prescribed by the Dutch electricity law). In the Netherlands, vertical integration generally occurs between retail and distribution (or local transport).²⁰ These vertically integrated companies were once thought to be so called natural monopolists, stemming from the notion that duplication of the network would be inefficient. Advancing understanding of markets and technological developments has led to the notion that the concept of natural monopoly applies to the networks only. As a consequence, competition in retail is now being introduced throughout the Western world.

²⁰ Sometimes, in the case of Essent and in cases abroad, the utility holding also includes a production company. In countries with a (former) national production monopolist (e.g. France and Belgium), the entire column may be integrated. We focus on the general Dutch case, where regional distribution networks are vertically integrated with retailers.

Figure 8.1 Industry column of electricity



The Dutch Electricity Law prescribes liberalisation of end user markets in three steps, the last one being implemented in 2004 (see table 8.1). End users that are still captive in the transition period are protected by price regulation. Energy prices for these customers are subject to a price cap, until the final step is completed.

Table 8.1 Stepwise liberalisation of the Dutch electricity market

Target group	Free choice of supplier by	Number of connections
Very large users (connection > 2MW)	1 January, 2000	650
Large users (connection > 3x80 Ampère)	1 January, 2000	59 000
Small users, electricity from durable sources	1 July, 2001	7 000 000
Small users, all types of electricity	1 July, 2004	7 000 000

In the new situation, electricity retailers compete for the delivery of electricity to end users, but delivery is obviously still bound to the single network. This implies that the network is an essential facility for participating in the market and third party access (TPA) of retailers to the network is an important condition for effective competition.²¹

²¹ See, for instance Laffont et al. (1998), Lewis and Sappington (1999) and Granderson (2000). The discussion on TPA is not unique to electricity retail. Third party access is also important in other network sectors (e.g. telecommunications and railways, see for instance Armstrong and Doyle, 1998). Furthermore, the TPA issue may also be important in other sectors with essential facilities, like access to telecommunication network and storage fields in natural gas wholesale markets.

8.2 Electricity retail: competition between retailers using an essential facility

This section focuses on the regulation of retailer access to the electricity distribution network. Electricity users buy electricity from retailers, just like many other products. Until recently, electricity retailers were vertically integrated regional monopolists, offering both retail and transport services to end users.

In the following subsection, we fit electricity retail in our analytical framework. Section 8.2.2 discusses policy options. Conclusions are formulated in section 8.2.3.

8.2.1 The playing field of electricity retail: level or not?

How does the regulation of retailer access fit into our framework? Regulators typically prescribe TPA against equal conditions. According to both our specifications and the one of Baumol *et al.*, 1997 (see box), this implies a rules-based level playing field. The reason is that one may view the access conditions as the rules of the game, referring both to the possibility of access and to the conditions under which it takes place. One condition is that the price under which access is granted, the access fee, is equal for all electricity retailers.²²

Does this mean that the situation may also be described as an outcome-based level playing field? To answer this question, we have to check for heterogeneities between firms.

Heterogeneous firms in combination with a rules-based level playing field constitute an outcome-based unlevel playing field.

The incumbent retailer is vertically integrated with the monopoly distribution network, whereas new retailers are not vertically integrated. Dutch electricity law prescribes legal unbundling between retail and the network. Legal unbundling implies that the activities should be organised in different legal entities (i.e. firms) but does not require unbundling of ownership.²³ Legal unbundling enhances possibilities for regulators to keep an eye on cross-subsidisation etcetera. From an economic perspective, however, legal unbundling does not change the incentives. If the ownership of the legally unbundled entities is still in the same hands, the incentives for the combined firms are similar to the incentives for a fully integrated firm. Maximisation of combined profits leaves the owner better off than separate profit maximisation. As a result, non-integrated retailers and the integrated incumbents are heterogeneous.

The heterogeneity between the non-integrated retailers and the vertically integrated incumbent poses several competition problems. First, the monopoly network activities may subsidise retail-activities. For instance, the integrated firms may use profits on the monopoly distribution network to finance retail investments. It is difficult to control this type of cross-

²² In Dutch electricity retail, the access fee is directly charged to the end user, so that no transfer takes place between the retailer and the network owner.

²³ England (including Wales), Sweden and Finland have adopted unbundling of ownership for electricity, England has also unbundled ownership of natural gas utilities (European Commission, 2002c).

subsidy, as the allocation of costs between retail and network activities is ambiguous. Second, the integrated firms have an incentive to raise the access fee, as a high access fee reduces profit possibilities for pure retailers, thus discouraging entry. Although vertical integration is not a form of market failure in itself, it introduces market failure from the monopoly network to the retail market. In short, vertical integration affects the competitive strength of pure retailers negatively through reduced profit possibilities. This means that there is an outcome-based unlevel playing field.

The Efficient Component Pricing Rule

The Efficient Component Pricing Rule (ECPR), also known as parity pricing was first proposed in Willig (1979) and has seen much debate since. Parity pricing of a bottleneck input (such as access to electricity networks) implies that the access fee equals the incremental costs of providing network access plus foregone profits of the bottleneck owner. Baumol et al (1997) show that the ECPR creates a rules-based level playing field in the retail market. We will not go into parity pricing in detail, but devote our attention to the specification of level playing field used by Baumol and his co-authors.

Baumol et al (1997, p 151-2) define level playing field as a situation where differences between (minimum viable) prices equal incremental cost differences. Let us turn to the individual elements of this definition, using a simple example.

Incremental costs are costs needed to produce one extra unit of output. Differences between producers may exist and play an important role in the definition here. Let us use a simple example of two energy retailers, where retailer 1's incremental costs are denoted by c_1 and the incremental costs for retailer 2 are c_2 . The incremental cost difference between these retailers is $c_1 - c_2$.

The minimum viable price is the lowest price at which a good is sold without making a loss. In the simplest of worlds, the minimum viable price exactly equals incremental costs. Our example is only slightly more complicated than the simplest of worlds, in the sense that the minimum viable price equals the incremental costs plus the access fee, denoted as a . The minimum viable price (p) for both firms may be defined as $p_i = c_i + a_i$. If we apply the definition of Baumol and his co-authors to our simple example, we see that the playing field is level if the difference between minimum viable prices ($p_1 - p_2$) equals the incremental cost difference ($c_1 - c_2$). This condition is fulfilled if the access fee is equal for both firms, i.e. $a_1 = a_2$. This definition implies that an efficient firm (for example $c_1 < c_2$) has the possibility of setting a lower price than its competitors ($p_1 < p_2$). This resembles a rules-based level playing field as defined in our theoretical framework. Note that the actual price of the efficient firm may just as well be equal to that of its competitors or even higher. The definition applies to the possibility of setting a lower price rather than the actual price, thus allowing for the existence of rents influencing actual prices.

Vertical integration does not distort the rules-based level playing field, if we follow the definition by Baumol *et al.* (1997) strictly (see the box above). After all, cross-subsidisation (through investments financed by network profits or through ambiguous allocation of advertising costs) effectively lowers incremental costs of the retail subsidiary of the integrated firms. A high (but non-discriminatory) access fee enlarges the gap between incremental costs and minimum viable prices, but it does so by the same amount for all retail firms.

8.2.2 Government Goals

When regulating a market, one should first be aware of the policy goals served by regulation. In the case of third party access regulation, promoting efficiency through the introduction of competition in the retail market seems to be the regulator's main purpose. This purpose follows from the notion that efficiency is, in general, beneficial to welfare for the society at large.²⁴

8.2.3 Consequences of heterogeneous firms

Electricity retail hardly seems to be bothered by market failures, implying that non discriminatory access to the network should be a sufficient condition for efficient competition in the retail market. As we stated in the previous section, vertical integration puts one firm ahead of the rest, despite the fact that a rules-based level playing field is imposed. This is unfavourable for competition, as it is more difficult for an efficient non-integrated retailer to gain market share. This may harm static efficiency in the market (see section 3.1). Another effect of discriminatory access to the network is that it may deter inefficient entry. It is not possible to say in general whether deterrence of inefficient entry is positive or negative for welfare. On the one hand, deterrence of inefficient entry may increase welfare if the costs of duplicating fixed assets are high. On the other hand, deterrence of entry keeps competition simmering. Entry may encourage competition, with downward pressure on prices as a result, even if the entrant is inefficient.²⁵

8.2.4 Policy options

The government has two options if it aims to move towards an outcome-based level playing field. The first option is to unbundle the ownership of the integrated firms.²⁶ This option deals immediately with the cause of the outcome-based unlevel playing field: only incumbent retailers are vertically integrated with the owner of the network. Unbundling of ownership is a once-only measure, after which a rules-based level playing field may coincide with a more outcome-based level playing field. The downside of unbundling is the risk of a negative price effect because of double marginalisation.²⁷ The second option is to regulate the access fee at the cost level. This solution makes it possible to keep the favourable effects of vertical integration. The downsides are that it requires permanent government intervention and a regulator who has good knowledge of all costs, which is often hard in practice. Both options have pros and cons. The government choose the second solution: permanent regulation of the access fee.

²⁴ For a more extensive discussion, see Boone, 1997.

²⁵ Prices may go down, even if a cost-inefficient retail firm enters the market. The explanation is that, before entry, there are monopoly prices and supranormal profit for the incumbent. Entry leads to price competition, with lower prices and reduced profit for the incumbent as a result (allocative efficiency increased). Note that average cost-efficiency is now lower than it was before entry.

²⁶ Note that unbundling would lead in the direction of an outcome-based level playing field, but other imperfections over (customer base, reputation etc) may prevail.

²⁷ Unbundling of ownership would not cause additional negative effects on possible economies of scope, as these effects (if any) are already distorted by legal unbundling.

8.3 Electricity distribution networks

This section focuses on the regulation of electricity distribution networks. Network operators are subject to regulation by the Dutch energy regulator (DTe), which contains level playing field aspects.

DTe explicitly uses the term level playing field in its review of the first regulatory period (DTe, 2002), linking it to a similar footing for all companies. The term 'similar footing' refers to equal opportunities, thus implying that DTe uses the specification of an outcome-based level playing field, as we will explain later on in this chapter.

Electricity distribution networks are operated by regional monopolists, which calls for regulation in order to prevent misuse of market power. Electricity network pricing in the Netherlands is subject to a price cap, setting a maximum to the annual increase in the access fee.

We distinguish between the regulatory model intended to combine yardstick competition with a price cap on a structural base (8.3.1) and the policy options for the transition phase leading to that model (8.3.4).

8.3.1 The level playing field of electricity distribution networks: level or not?

How does DTe set the price cap for electricity network access pricing? DTe adjusts the price cap annually by $CPI-X$, where CPI is the inflation percentage according to the consumer price index and X is a required percentage of productivity improvement. A network owner is allowed to set the access fee in year t , P_t at the following level:

$$P_t = P_{t-1} \times (1 + CPI - X) \quad (8.1)$$

DTe proposes to determine factor X by a system of yardstick competition. Yardstick competition implies that regulated prices depend on a yardstick, which is often based on some measure of best or average practice in the industry or a comparable industry. In the case of electricity networks, DTe bases the X -factor on the industry's average efficiency improvement in the last regulatory period and the regulator's expectations of future improvements. This ensures that companies that outperform the average earn a higher rate of return, whereas underperformers face a lower rate.

Equation (1) in section 8.1 tells us that the maximum access fee in period t is allowed to exceed the access fee in period $t-1$ by $(CPI-X)$ percent. The consumer price index is the same for all firms by definition. The DTe (2002a) explained that the X -factor will be generic after the transition phase. This implies that, after the transition phase, all firms are allowed to increase (or decrease) their prices by the same percentage, which is, by definition, consistent with a rules-based level playing field.

More important to welfare than the X-factor, however, is the level of the regulated access fee. The level of the access fee depends on the initial level in the previous period, which differs between network companies. These differences between firms follow from regional differences in the strategy space (such as customer density, geographic factors and so on) and initial differences in cost-efficiency.

If not corrected, these differences yield an unlevel playing field in terms of outcomes. One wants to correct for regional differences, by allowing regional variations in the initial level of the price cap (P_{t-1}). Normally, one does not want to correct for differences in efficiency (see section 2.3). However, in this case part of the efficiency differences stems from the period before liberalisation of the market. To correct for these specific efficiency differences, DTe introduced a transition regime.

8.3.2 The government goal

Efficiency is the main purpose of the regulator. DTe (2002a, p4) states that ‘...every business will have a continual incentive to operate as efficiently as possible to stay ahead of its competitors.’

8.3.3 Consequences of heterogeneous firms

Why does DTe introduce a transition regime in order to correct for efficiency differences stemming from the period before liberalisation of the market? Suppose that a certain network owner has a productive efficiency well below that of other companies. The other companies are efficient because of public investment in the past, made under a different institutional constellation of the sector, in which no effective incentives for efficiency improvement existed.

As described in section 8.3.1, after the transition period, the system of yardstick competition requires firms to increase their efficiency by the same rate. It will be relatively easy for the inefficient network owner to increase its efficiency, because the ‘easy’ measures still have to be taken. This implies that the inefficient firm is rewarded for its initial lack of efficiency (through a high P_{t-1}) stemming from the period before yardstick competition was in place. In contrast, firms that have already taken several measures to increase their efficiency will be punished for their good behaviour, as it becomes harder to further increase their efficiency. As a result of the heterogeneous initial efficiency levels, the rules-based level playing field (all firms the same X-factor) does not lead to move towards an outcome-based level playing field.

8.3.4 Policy options for the transition phase

In its ‘Overview of the first regulatory control’ (DTe, 2002a), DTe explains that it uses the first regulatory period to move towards an outcome-based level playing field, ‘...because the companies did not begin at the same level of efficiency, implying that the level playing field that DTe seeks to establish is not yet in place.’ (DTe, 2002a, page 5; a similar line of reason

may be found in DTe, 2002b, pp. 12-13). This argumentation reveals that DTe holds the initial efficiency of firms to be part of the playing field.²⁸

DTe's solution to this problem is a transition period, where the X-factor is firm-specific: higher for the inefficient network owners than for their efficient counterparts. The firm-specific X-factor proposed by DTe in the transition regime is meant to eliminate the differences in efficiency that existed in the year 2000 (when the regulation started) and to start the second regulatory period at the same level of efficiency. This implies that the transition aims to tilt the playing field towards an outcome-based level playing field (equalising the opportunities of implementing the required X-factor).

To enable a firm-specific X-factor the Dutch Electricity law has been altered in 2003. The firm-specific X-factor conflicted with the Dutch Electricity law 1998, which prescribed a generic X-factor for all firms. Attempts of DTe to set a firm-specific X-factor under the 1998 law was overruled by a decision of the CBb ('College van Beroep voor het Bedrijfsleven', an appeal court for companies) in November 2002. Under the 1998 law, any solution to deal with the heterogenic initial efficiency levels was likely to run into legal problems. Since the problem at hand is heterogeneities between firms, it can only be solved by creating countervailing asymmetric rules. The updated Electricity law enables the necessary policy options.

8.4 Conclusion

The electricity case shows that one sector can have several level playing field issues, with several solutions to each issue.

First, we analysed electricity retail. The access pricing regime may be characterised by a rules-based level playing field for retailers using the network. However, vertical integration of the incumbent retailer with the network firm affects the competitive strength of pure retailers negatively through reduced profit possibilities. Therefore, there is an outcome-based unlevel playing field. Although vertical integration is not a form of market failure in itself, it introduces market failure from the monopoly network to the retail market.

Two solutions have been suggested to move towards an outcome-based level playing field. The heterogeneity itself may be taken away, for instance by unbundling vertically integrated firms. This is a once-only measure, after which a rules-based level playing field may coincide with a more outcome-based level playing field. The other solution involves regulating the

²⁸ DTe does not follow the definition in Baumol et al (1997) for the initial differences in efficiencies, because these differences stem from a past institutional framework. Baumols definition implies that differences in efficiencies should be reflected in price differences.

access fee at a welfare optimising level. Note that this requires permanent government intervention, as described in section 5.1.3.

Second, we applied the concept of level playing field to electricity distribution networks. The regulatory framework for access fee regulation is a straightforward case of a rules-based level playing field: all firms face the same X -factor (required rate of productivity improvement). The rules-based level playing field coincides to a large extent with an outcome-based level playing field: all firms have similar opportunities to increase their profits.

The framework comes with a transition period however, in which the situation is less clear. Heterogeneities between firms disturb the ideal picture. Network owners are heterogeneous in initial cost-efficiency levels. DTe proposed to counteract the heterogeneous initial efficiencies by a transition regime aimed with asymmetric rules. Asymmetric rules are a necessary condition to move towards an outcome-based level playing field. The Dutch Electricity Law has been altered in 2003 to enable asymmetric rules.

9 The auction for petrol stations

9.1 Introduction

Auctions have been widely used by governments to sell a range of scarce resources. In several countries, governments auctioned licenses to firms that gave them the right to enter certain markets such as the market for mobile telecommunication. As some of these auctions lead to undesirable outcomes, policy makers all around the world have become aware that “in auction design, the devil is in the details”, as auction expert Paul Klemperer (2002b) has put it.²⁹ In this chapter, we will investigate whether the ‘levelness of the playing field’ might be one of these details.

In Part I of this report, we argued that a useful starting point in the analysis of a level playing field issue is to assume that a rules-based level playing field is desirable. The government may have a reason to intervene if it expects competition on a rules-based level playing field to lead to market failure. In line with this, this chapter will show that, despite the virtues of bidding on a rules-based level playing field, it can make sense to favour disadvantaged bidders. In particular, if licences are auctioned to enter a market, it can make sense to favour new and small firms.

In order to make this point, we will focus on the auction for petrol stations along the Dutch highways. The Dutch government has been convinced that there is market failure, in the sense that market power by the largest petrol firms leads to undesirably high petrol prices. Currently, the government aims to increase competition in the market by auctioning licenses. We will argue, however, that established large companies in the petrol market are probably willing to pay more for a license to operate a petrol station than small firms or firms that have not yet entered the market. We will claim that the Dutch government will increase competition in the petrol market only if the government tilts the playing field on which firms compete towards an outcome-based level playing field. In order to do so, the government may need to use asymmetric rules. The starting point of our analysis is MDW (2002), which deals with the design of auctions and other allocation mechanisms. The authors of the MDW-report mention ‘level playing field’ as an important issue in the design of allocation mechanisms in general. The report includes several policy recommendations to implement rules that deal with an unlevel playing field in a product market for which licenses are sold.

Before we start discussing this case, we need to stress that we only intend to use it to illustrate the idea that in some situations, competition on a rules-based level playing field may lead to undesirable outcomes. We are aware that the Dutch government faced limitations in designing the auction as the petrol firms owned everlasting licenses. Policy makers had to negotiate with

²⁹ For instance, several UMTS auctions in Europe were considered a failure as governments raised less money than they expected.

the current owners of the service stations in order to convince them to give up these licenses. The auction design is a result of these negotiations. Moreover, the first and second round of the auction already took place, so that the rules of the auction cannot be easily changed. In other words, we recommend the reader to view this case solely as an illustration of the ideas expressed in Part I.

We will discuss the following issues. What are the rules of the auction (§9.2)? Do these rules constitute a level playing field (§9.3)? What policy goal does the Dutch government wish to achieve using the auction (§9.4)? What are the potential conflicts between heterogeneities between bidders and this goal (§9.5)? What are the policy options for the Dutch government to reach its target (§9.6)? The answers on these questions are summarised in the conclusion (§9.7).

9.2 The rules of the auction

In December 2002, the Dutch government initiated an auction for rights to operate a petrol station along the Dutch highways. In the next 25 years, it intends to sell the licenses for each of the about 250 service stations along the highways, about 10 every year. After that, all licenses will be reallocated once every 15 years. The reason for this is that currently, the retail market for petrol is a typical example of a ‘tight’ oligopoly which is characterised by a few strong firms and high entry barriers.³⁰ Both market characteristics are explained by the fact that each petrol firm needs a license for every petrol station it operates. In the past, these licenses have been allocated in a way which favoured established large companies. The resulting market structure of today is such that four firms dominate the market: Shell, Esso, BP/Mobil, and Texaco. On top of this, Shell has a significantly larger market share than the others, so that there is scope for price-leadership. Several organisations have complained that this market structure establishes market failure as firms are able to sustain prices that substantially exceed their average costs. It is not clear whether this is truly the case, but at least their profit margins are higher than in several surrounding countries (see table 9.1).

The Dutch government decided that this was enough reason to try to ‘cure’ the petrol market by organising an auction, aiming to increase the number of firms in the market. The rules of the auction are the following. Licenses will be valid for 15 years and will be sold sequentially in ‘sealed-bid’ auctions. In each auction, every bidder can submit a single monetary bid. The winner of the license is the bidder who submits the highest bid. If the current owner wins, the winner pays the difference between her bid and the second highest bid (when a license is auctioned for the first time), with a maximum equal to 15% of her own bid. If the winner of an auction is not the current owner of the license, the winner pays her bid to the owner. When the license is auctioned again after 15 years, the winner pays her bid to the government. In addition, the government implemented a rule which specifies that it is not possible to operate two service

³⁰ See Canoy and Onderstal (2003) for a more detailed investigation of ‘tight’ oligopolies.

stations with the same trademark within a distance of 25 kilometres in the same direction along the same highway. Finally, the largest four companies in the market agreed to sell 50 of their petrol stations before the end of 2004.

Table 9.1 Concentration and retail margins in the retail petrol market in 1997.³¹

	CR1*	CR4**	Margin petrol (eurocents per litre)	Margin diesel (eurocents per litre)
The Netherlands	31	74	12.8	11.0
Belgium	18	55	11.6	11.7
Germany	20	53	10.2	11.7
France	14	38	7.6	9.4
United Kingdom	15	56	6.7	7.2

* CR1 = market share of largest firm

** CR4 = total market share of four largest firms

9.3 The playing field in the auctions of petrol stations: level or not?

In this section, we interpret the meaning of rules-based and outcome-based level playing fields in auctions and discuss whether the above rules are consistent with at least one of these specifications. In line with our specifications in Part I, we assume that bidders compete on a rules-based level playing field if the rules are non-discriminatory. Moreover, bidders compete on an outcome-based level playing field if they all have to same probability of winning an object in an auction. Do economists use both specifications when they write about a level playing field in auctions? It seems to be.

For instance, Maskin and Riley (2000) state:

“In this paper, [...] we are concerned with comparing the revenue from the two common auctions which both employ symmetric rules (a level playing field.)”

Maskin and Riley speak about a rules-based level playing field as they refer to symmetry in the rules of the auction.

Cramton (1998) has a different specification in mind than Maskin and Riley:

“If the seller knows the extent of the asymmetry, then the seller can level the playing field by giving disadvantaged bidders an appropriate price preference.”

It is not immediately clear what is precisely the specification Cramton is using, but we could think of something like the following: ‘Bidders compete on a level playing field if the auction design levels out specific types of heterogeneity between bidders in such a way that all bidders

³¹ Source: MDW (1999b). CR1 is the market share of the largest firm. CR4 is the total market share of the largest four firms.

have the same probability of obtaining a license.’ In other words, Cramton appears to refer to what we have just defined as an outcome-based level playing field. It is not hard to observe that his specification is in conflict with Maskin and Riley’s: Cramton argues for introducing asymmetry in the auction rules to create a level playing field while that would make the auction unlevel in the sense of Maskin and Riley. In other words, the auction designer may need to discriminate among bidders if he desires to move towards an outcome-based level playing field.

Depending on the situation, the government may have a good reason to implement either type of playing field: a rules-based level playing field is optimal if the bidders’ value of the good reflects the social value of the good, whereas a move towards an outcome-based level playing field may be needed if it is desirable not to allocate the good to the bidder with the highest value. Recall that in Part I, we have made a similar analysis for markets: the government only has a reason to discriminate among firms in the case of market failure. Observe that in this sense, there is no difference between auctions and markets.

Does the auction for petrol stations constitute a rules-based level playing field? The answer is no, as there are three asymmetric rules. First of all, if the current owner loses a service station, he receives the entire auction revenue. Other bidders do not receive anything if they lose. Second, if the current owner submits the highest bid, he obtains the license and only has to pay the difference between the bid and the second highest bid (with a maximum of 15% of her own bid). Any other winning bidder has to pay the entire bid.³² Finally, the owners of the previous and the next petrol station on the highway are excluded from participation as it is not possible to operate two service stations with the same trademark within a distance of 25 kilometres in the same direction along the same highway.

Does the auction constitute an outcome-based level playing field? We speak of an outcome-based level playing field if ex ante differences between bidders are levelled out in such a way that all bidders have the same opportunity of obtaining a license. At least until 2005, small firms have a good opportunity of obtaining licenses in the auctions, as the four largest firms have promised to sell 50 of the petrol stations they currently own along the Dutch highways. Moreover, firms operating petrol stations within a distance of 25 kilometres to a particular service station are excluded from participation in the auction of this service station. The government has implemented this rule to avoid firms creating local monopolies. To some extent, this rule mitigates the heterogeneity between large established firms and potential entrants. We will analyse in section 9.5 and 9.6 whether these rules support a move towards an outcome-based level playing field.

³² The first two rules only apply to the first time that a service station is auctioned. In later rounds, the current owner will be treated in the same way as the other bidders. The reason for this asymmetric treatment is that the government has committed to compensate the current owners for giving up their everlasting licenses. The government implemented the 15% rule in order to avoid collusion against the current owner: competitors may have an incentive to submit a very low bid on a petrol station in order to drive up the costs for the current owner.

9.4 The government goals

What is the Dutch government's goal in the case of the auction for petrol stations? The economic literature mentions the following three objectives governments may wish to reach using auctions:

- *Efficiency*: The auctioned objects should be allocated to the bidder that attaches the highest value to it. In the petrol market, the allocation is efficient if each license is allocated to the firm that is able to build the cheapest petrol station, operates it at the lowest cost, and is the most effective in terms of marketing.
- *Competition*: The objects should be allocated such that competition in a specific market is optimal. This is important in terms of welfare as it implies a high consumer surplus.
- *Revenue*: The objects should be auctioned such that the government raises as much money as possible. High auction revenue can be important for welfare as the government needs to levy less (distortionary) taxes.

An important precondition is that the rules of an auction are consistent with national and international law. In particular, it may be questionable whether discriminatory rules are legally valid. We will spend some words on this later in this chapter.³³

So, what is the Dutch government's goal in the case of the auction for petrol stations? Before answering this question, let us answer a more subtle one: why does the government intervene at all in the petrol market? Why does it issue a limited number of licenses despite the possibility that this may lead to a lack of competition in the market? The answer is that a dense network of petrol stations along the highway conflicts with safety on the highways, a healthy natural environment, the targets of urban planning and welfare reducing duplication of costs.

In its official documents, the Dutch government indicates that it mainly wishes to change the way licenses for petrol stations are allocated to increase competition in the petrol market, which is desirable in terms of welfare (MDW, 1998). Competition is increased if firms have less ability to realise supranormal profits. Therefore, the Dutch government considers it important that the currently strong firms lose market share to small firms and entrants. Competition in the petrol market will increase only if the auction is an outcome-based level playing field to a certain extent. Only then will new and small firms gain market share, so that eventually firms will be less able to realise supranormal profits. Following our analysis in Part I, we add the qualification 'to a certain extent' to 'outcome-based level playing field' as a fully outcome-based level playing field may not be desirable. For instance, it may not make sense to encourage very cost inefficient firms to enter the market.

³³ See MDW (2002) and Maasland et al. (2003) for more details on the legal validity of asymmetric rules in auctions.

9.5 Consequences of heterogeneous bidders

The previous section has revealed the close relationship between a move towards an outcome-based level playing field in the auction and sufficient competition in the petrol market. However, Klemperer (1998) shows that the playing field of auctions with symmetric rules may not be outcome-based level in the case of heterogeneous bidders. The bidder with the advantage will always win the object in the auction. Disadvantaged bidders may even decide not to enter the auction at all, as their probability of winning is zero anyway, which happened in several UMTS auctions.³⁴

These arguments hold true for various types of heterogeneity between bidders. The bidders in the petrol auction differ along the dimensions (1) incumbent/entrant, (2) costs, (3) ownership, and (4) information. Let us illustrate the relation between these types of heterogeneity and the Dutch government's objective to increase competition in the petrol market *under the assumption that the auctions constitute rules-based level playing fields*. We will argue that competition on a rules-based level playing field will probably not solve the market failure in the petrol market: the government will not increase competition. To solve this problem, the government may wish to favour disadvantaged bidders in the auction.³⁵

Incumbent/entrant

In the petrol market, the most important type of heterogeneity is the distinction between incumbents and (potential) entrants. For three reasons, an incumbent can be expected to be willing to pay a higher amount of money in an auction than a newcomer, so that the incumbent is likely to win in the case of a rules-based level playing field. First, the incumbent is more cost efficient than the entrant as the entrant should invest in building up a customer base, attracting employees, buying assets for operating in the market, etcetera. Second, there is a network effect in this market which gives an advantage to incumbents as they realise higher sales per outlet.³⁶ Third, an incumbent, by buying the license, can prevent a newcomer from entering the market.³⁷ To see this, suppose that before the auction, the incumbent has a monopoly in the market. If the newcomer enters, not only will total market profits decrease due to the introduction of competition, the old monopolist also has to share the profit with the new entrant.

³⁴ Klemperer (2002a) and Van Damme (2002).

³⁵ See also MDW (2002)

³⁶ MDW (1999b) indicates that the petrol market is characterised by a strong network effect: a firm with many outlets attracts more customers per outlet than a firm with few outlets. Onderstal (2002) has shown the existence of strong network effects empirically. Car users can save for air miles, presents, or discounts if they buy their petrol regularly at stations with the same trademark. Therefore, they prefer trademarks with many outlets. Shell sells (*ceteris paribus*) about twice as much fuel per outlet than a firm with only one petrol station along the Dutch highways.

³⁷ Gilbert and Newbery (1982) and Onderstal (2002).

Costs

Another type of heterogeneity lies in the dimension of costs. Firms may differ in efficiency of production or in the cost of borrowing money. When bidding for a license to operate in the petrol market, an efficient firm will find the license more profitable and is willing to pay more for it than a less efficient firm. In order to enhance competition, the government may wish to correct for cost differences between firms. However, this may be tricky: this is only desirable if the government expects the inefficient firms to set prices below the current oligopoly prices. As the purpose of competition is to increase efficiency in the market, the government does not want to encourage entry of inefficient firms that will set higher prices.

Ownership

An additional dimension in which firms differ is ownership of the license that is auctioned. Both the current owner of the license and potential buyers participate in the auction. From economic literature we know that in takeover battles, ownership of just a toehold in the takeover target can help a bidder to win a takeover auction, often at a low price.³⁸ If even the ownership of a toehold gives a bidder tremendous advantages, what about ownership of the entire license, which is the case in the auction for petrol stations?

Information

Finally, firms may face heterogeneity in the amount of information they possess on the auctioned object. In the auction for petrol stations, the current owner of a petrol station is better informed about relevant information concerning the petrol station than entrants (realised profits in the past, the number of cars passing by during the day, environmental constraints, and so on). Akerlof (1970) shows that asymmetric information may violate an efficient re-allocation of the petrol stations. The reason of this is that an entrant faces a higher risk of the winner's curse than the current owner. When an entrant bids more than the better informed current owner, the entrant may realise that the bid was too high. Knowing this, the entrant bids relatively cautiously, so that the current owner is more likely to obtain the object, even if the current owner does not attach the highest value to it.³⁹

9.6 Policy options

In the previous section, we argued that the Dutch government may wish to favour small and new firms in the auctions in order to increase competition in the petrol market. More precisely, we observed that it makes sense to correct for differences between incumbent/entrant, current owner/potential buyer, and asymmetric information. We also noted that correcting for cost

³⁸ Bulow et al. (1999). The logic mainly holds true for the 'ascending auction' and in the case of 'almost common values'.

³⁹ Note that there is a strong correlation between ownership and the information a bidder possesses on the auctioned license. One may argue that there is a link between ownership and the auction outcome. However, this link is only indirect.

differences is tricky: this is only desirable as far as the inefficient firms can produce more cheaply than the current oligopoly prices.

The economic literature distinguishes the following possibilities for governments to correct for these differences: (1) choosing a specific auction type, (2) corrective measures before the auction, (3) asymmetric rules, and (4) additional symmetric rules. These possibilities are in line with section 4.3 in part I. For more information on choosing the right policy options in the context of the allocation of scarce resources we refer to the framework of MDW (2002).

Let us illustrate the policy options for petrol stations. How can the Dutch government give an advantage to disadvantaged bidders (potential entrants and small incumbents) so that they have a fair chance against advantaged bidders (established large firms) in the auction? And: to which extent has the Dutch government implemented this possibility in the design of the auction?

Auction type

As said, the government has decided to sequentially sell the licenses in sealed-bid auctions. From the auction literature, we know that disadvantaged firms have a better chance of obtaining a license in the sealed-bid auction than in other standard auction types such as the commonly used ascending auction.⁴⁰ Moreover, the fact that the licenses are sold sequentially provide potential entrants with information about the value of petrol station. Therefore, they face less risk of bidding too high. So, they have a higher incentive to submit competitive bids.⁴¹

Corrective measures before the auction

The Dutch government has negotiated with the four largest petrol companies with regards to several measures to be taken before the auction. Four results of the negotiations were aimed at increasing competition in the petrol market, since the measures reduce the competitive disadvantages of potential entrants. First of all, the established petrol firms have promised to decrease the number of petrol stations that operate under their name by 50 before January 1, 2005. However, the effect of this promise is only temporary: after January 1, 2005, each firm is unrestricted in the number of petrol station it can obtain.⁴²

Second, as we have mentioned before, it is not possible to operate two petrol stations with the same trademark within a distance of 25 kilometres in the same direction along the same highway.

Third, in 2004, the government will abolish the strict separation between the sale of petrol and other economic activities such as supermarket chains, restaurants, furniture shops, and home improvement centres. This increases the incentives for supermarkets (and others) to start

⁴⁰ Bulow et al. (1999) and Maskin and Riley (2000).

⁴¹ Bortolotti (2001).

⁴² Provided that it does not own two petrol stations within a distance of 25 kilometres along the same side of the highway.

a petrol station along the highway. In France and in England, several supermarkets operate their own petrol station.

Finally, the government actively tries to reduce possible information asymmetries. As said, informed bidders may have an advantage over uninformed bidders. Before the auction, all bidders receive information about the current petrol station, the government's zoning plan, special circumstances in the environment of the petrol station, and so on. Reducing the information asymmetry is valuable for tilting the playing field towards an outcome-based level playing field.

Asymmetric rules

The government has implemented one asymmetric rule that corrects for heterogeneity in ownership, but this rule does not correct for other types of heterogeneity.⁴³ In addition, the government could have introduced bidding credits for disadvantaged bidders. This idea is as follows. The government gives a disadvantaged bidder the advantage that, if the disadvantaged bidder wins the auction, it has to pay the auction price minus a bidding credit (let's say 2,000,000 euros). Alternatively, the disadvantaged bidder gets a bidding credit equal to a certain percentage (let's say 10%), so that it only has to pay a certain fraction (90%) of the winning bid. This was for instance done in the US, where Congress required the Federal Communications Commission (FCC) to encourage participation of women, minorities and small business in the mobile telecommunication auctions.⁴⁴ These 'designated entities' received bidding credits ranging from 10% to 40%.⁴⁵ Interestingly, both theoretically and empirically it has been shown that tilting the playing field in this way need not lead to a loss in the government's revenue.⁴⁶

At some stage, the Dutch government did consider to introduce bidding credits for potential newcomers. However, it appears to have been convinced that the European Courts would interpret asymmetric treatment of bidders as discrimination between bidders or state aid to advantaged bidders. Van Damme (2002), in contrast, argues that – from the economic point of view – it is not obvious that a bidding credit is equivalent to state aid. Van Damme uses the point we have just made: both theoretical and empirical research has revealed that the seller, when tilting the playing field towards an outcome-based level playing field, may expect higher revenues rather than lower. In MDW (2002) and Maasland et al. (2003), it is argued that it is uncertain to which extent Van Damme's reasoning is in line with European law. From a legal point of view, it is likely to be difficult to convince the European Commission before the auction that asymmetric rules will increase the auction revenue.

⁴³ This rule works as follows. The current owner receives the entire auction revenue if it loses the license to another bidder, and if the current owner wins, it only has to pay the difference between its bid and the second highest bid. These rules imply that the current owner *always* (regardless of winning or losing) obtains an amount equal to the highest bid submitted by the other bidders, so that this has no effect on the bidding strategy. For the rest, the same rules apply to both the owner and the other bidders, so that ownership does not play a role anymore.

⁴⁴ McMillan (1994).

⁴⁵ Cramton (1998).

⁴⁶ Respectively Myerson (1981) and Ayres and Cramton (1996).

Let us consider several additional possibilities to tilt the playing field using asymmetric rules. Especially when a government desires to increase competition, such as in the auction for petrol stations, newcomers need to have a fair chance to obtain licenses. The government may wish to completely exclude incumbents from the auction, or reserve attractive licenses specifically for entrants. The latter was for instance done in the UMTS auction in the UK.⁴⁷ Moreover, the government may allow for the formation of bidding alliances for joint bidding. When small firms are given the opportunity to co-operate, they may be able to realise economies of scale they would not have realised when bidding alone.⁴⁸ Also, co-operating firms can exchange information about the auctioned object, which reduces their winner's curse, so that they can bid more aggressively.⁴⁹

Additional symmetric rules

Another option is the introduction of an additional (symmetric) rule that limits each firm in the total number of stations they own along the Dutch highways. By doing so, the Dutch government will automatically enhance competition in the petrol market. As we have mentioned before, the large established firms have promised to get rid of 50 of the service stations they currently own before the start of the year 2005. This rule seems to work pretty well: small and new incumbents have won three of the nine licenses that were sold in the first auction in December 2002, including the most expensive one. In the second auction in September 2003, five out of ten petrol stations were sold to small and new incumbents.

In the end, the Dutch government decided to implement only some of these options. It probably has not implemented the others as it was bound by the results of the negotiation with the current incumbents. It supposedly had to do some concessions to compensate these firms for giving up their everlasting licenses. Another reason for not tilting the playing field using these instruments could have been the risk of government failure. For instance, when giving bidding credits, the government needs to have good approximations for the disadvantage of the new and small bidders relative to the big incumbents. It may be difficult to obtain these. In some of the FCC auctions, the US government seems to have failed for another reason. It aimed at creating an outcome-based level playing field by giving disadvantaged bidders the possibility of instalment payments: bidders typically differed in their financial position, i.e., for one bidder it was cheaper to arrange money than for the other bidder.⁵⁰ However, the outcome of these auctions showed that the bidders with the riskiest business plans were generally the winners. Salmon (2002) reports that after one auction, "many firms began declaring bankruptcy and defaulting on their instalment payments".

⁴⁷ Binmore and Klemperer (2002).

⁴⁸ Cramton (1995).

⁴⁹ DeBrock and Smith (1983).

⁵⁰ McMillan (1994).

9.7 Conclusion

In this chapter, we have investigated the auction for petrol stations in the Netherlands. We have shown that there is a rules-based unlevel playing field. There is also an outcome-based unlevel playing field, because of heterogeneity between large established firms on the one hand and potential newcomers and small firms on the other. The Dutch government will reach its target of increasing competition by tilting the playing field towards an outcome-based level playing field. We have discussed several possibilities for this, including asymmetric rules in favour of currently small firms and potential newcomers, the choice of a specific auction type, corrective measures before the auction, and additional symmetric auction rules. The Dutch government has implemented several of these options. It is hard to say whether the options applied are sufficient to tilt the playing field to the right extent.

10 Conclusion

Conflicting use of the term ‘level playing field’

Pleas for a level playing field, like in international trade, may sound appealing, but are often not well-founded. This is because it is not exactly clear what a ‘level playing field’ means. Even worse, we observe contradictions in the way that they use the concept ‘level playing field’. For instance, Cramton wrote in the context of auctions that it is possible to level the playing field by giving disadvantaged bidders an appropriate price preference. On the other hand, Cook said that state aid should be reduced in order to level the playing field. Moreover, the report shows that the concept of a ‘level playing field’ can be used for many pleas, whether it is appropriate or not. The confusion about ‘level playing field’ may create a breeding ground for policy errors. One can not say in general whether a plea for a ‘level playing field’ is justified or not.

Specification of the term ‘level playing field’

In this report we distinguish two common specifications of the concept ‘level playing field’:

- *Rules-based level playing field: the rules are the same for all firms.* The word ‘rules’ refers to all types of government policy, such as legislation and subsidies. There is a rules-based level playing field if rules are symmetric: equal non-discriminating rules apply to all (different) firms in a market. That is: two firms in equal circumstances are treated equally.
- *Outcome-based level playing field: all firms have the same expected profit.* Firms have an outcome-based level playing field if they have equal characteristics (for example in cost-efficiency and strategic options) and the rules are symmetric. In case firms are heterogeneous, the government can create an outcome-based level playing field by compensating the disadvantaged firm (for instance with subsidies).

In this report we try to show in which circumstances a level playing field, according to one of these two specifications, can increase welfare.

No rules-based level playing field, unless...

The first conclusion is that a rules-based level playing field is desirable, although there are reasons to deviate from this assumption.

Starting point for analysing a level playing field issue is that a rules-based level playing field generally enhances welfare. The idea is that the government creates equal conditions for all firms and that market forces do the rest. The government does not need to benefit disadvantaged firms with subsidies, for example, in cases that competition leads to an optimal allocation of resources. Cook probably had this idea in mind when he pleaded for a reduction of state aid.

The case of secondary vocational and higher education (chapter 6) illustrates this idea. In the Netherlands, education is provided by publicly funded institutes and non-funded institutes,

which differ in the subsidies they are entitled to and the extent to which they are regulated. The difference in rules inhibits competition and reduces the incentives for institutes to provide an optimal price/quality relation. Welfare can be enhanced if the government would create a rules-based level playing field.

Exceptions on the rule

There are a number of exceptions on the general rule that a rules-based level playing field is desirable. First, asymmetric rules in procurements may enhance the introduction of new and better products or better production technologies (dynamic efficiency). Second, asymmetric rules may be desirable for redistributing income among citizens (equity). An example is a system with subsidies for house rent. Third, asymmetric rules may enhance welfare if countries differ in their preferences.

The arena for multinational enterprises (chapter 7) is a good illustration of the last two exceptions. German taxes, for example, are above the European average and create a rules-based unlevel playing field. Foreign companies have a cost (or competitive) advantage, because they pay lower taxes, allowing them to capture a disproportionately large share of the international market. This does not necessarily mean that the German government should level the rules-based playing field by lowering taxes. The disadvantages of the unlevel taxes for the German multinational enterprises may be offset by the advantage that the high taxes are in Germany in line with national preferences. Or at least, the German political system has until recently not been able to translate calls for socio-economic reform into actual reduction of public goods provision and redistribution. If one takes the perspective of the EU as a whole, tax coordination between Member States becomes an option. But also then, it is necessary to weigh the advantages of a more efficient allocation of production factors against the disadvantage that the heterogeneous preferences of Member States are less accommodated.

No outcome-based level playing field, but...

The second conclusion is that it is never desirable to pursue a fully outcome-based level playing field, but that it may be desirable to level the playing field to a certain extent in the case of market failure. Starting point of the analysis is that a fully outcome-based level playing field, in which all firms have the same expected profit, does not enhance welfare. Most differences between firms are favourable to welfare, as efficiency increases if firms can use their competitive advantages to attract customers (static efficiency).

It may be desirable to level the outcome-based level playing field to a certain extent in case of market failure. Static efficiency may increase if heterogeneities between firms that lead to market failure are corrected. After all, correction of market failure can encourage competition. Cramton probably had this line of thought in mind when he pleaded for an appropriate price preference for disadvantaged bidders in an auction.

Preferred policy options

Levelling the playing field to a certain extent does not necessarily mean that the government has to benefit the disadvantaged firm with asymmetric rules, such as subsidies. The government can also use symmetric rules, for instance by lowering entry barriers for firms, increasing transparency, or reducing switching costs for consumers. Policy options with symmetric rules are often preferable, since experience learns that asymmetric rules are difficult to specify correctly (government failure), involve costs, or have negative side effects. The positive effects of policy options that involve asymmetric rules may only offset the risks of government failure and negative side effects if the government aims to enhance competition in markets with substantial market failure, such as in network utilities and the allocation of scarce resources (e.g. auctions). Policy measures can have a temporary character if they help to solve market failure, but may need to be permanent if they only correct the undesired effects of market failure.

The Dutch electricity market (chapter 8) shows that temporary asymmetric rules may be necessary. Since the liberalisation of the electricity market, prices of regional electricity networks are subject to price regulation in order to encourage efficiency. However, electricity networks have different initial levels of cost-efficiency as a result of different investments in the period before liberalisation. This creates an outcome-based unlevel playing field, as electricity networks differ in the effort they have to make to improve efficiency. Temporary asymmetric price regulation can solve this problem.

The auctions of petrol stations (chapter 9) are an example in which the government can use symmetric and asymmetric rules to move towards an outcome-based level playing field. Petrol stations along the Dutch highways are almost all in the hands of four firms. The government organises an auction of all these petrol stations, aiming to encourage entry of new firms and to increase competition. As entrants have a disadvantage in the auction (e.g. in information), entry may fail to occur if the government would not have taken additional measures. Partly because of the risk of government failure with asymmetric rules, the government has mainly chosen to implement symmetric rules to encourage entry.

Steps in level playing field issues

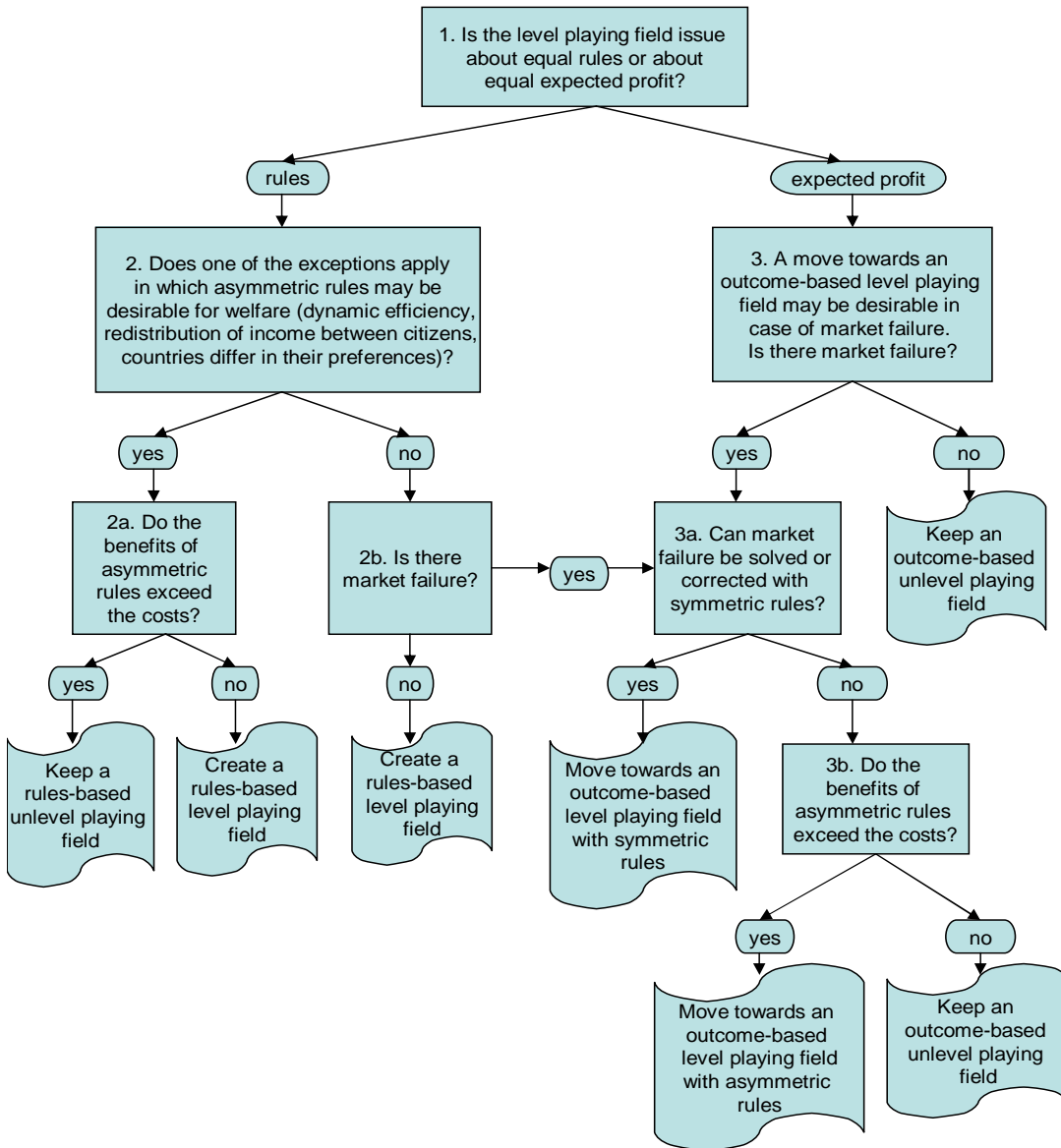
The information above makes it possible to formulate a number of questions that can help policymakers to analyse level playing field issues. In addition to the examples in this report, the framework may be used in other level playing field issues, such as telecommunication (is it desirable to favour entrants?), climate policy (do we want to be in the forefront with climate measures?), agriculture and orders for military equipment (foreign government subsidises, we too?). We give two examples.

Example 1: Foreign shipbuilders receive subsidies. Does this mean that the Dutch government should also subsidise shipbuilders in order to level the playing field? This example is about asymmetric rules, not about expected profit, which implies that we need to continue

with question 2: does an exception apply? The answer is positive, as shipbuilders operate on an international market with countries that differ in their preferences. This brings us to question 2a: do the benefits of asymmetric rules exceed the costs for the Netherlands? The benefit of asymmetric rules (subsidies abroad and not in the Netherlands) is that consumers profit from cheaper foreign ships. Another benefit is that there are no costs of government intervention: no risk of government failure, no unintended side effects and no use of tax money. The costs are to be found in the loss of profit for Dutch shipbuilders and (temporary) loss of employment. See also section 5.2 and chapter 7.

Example 2: In the Netherlands hospital compete with private clinics, for instance for cataract surgery. Private clinics can treat cataract cheaper because of low overhead costs. The hospital price for a cataract treatment also includes costs for other services, such as emergency care and speciality care. This competitive disadvantage for hospitals creates an unlevel outcome-based playing field. This brings us to question 3: is there market failure? Research (CPB, 2003) shows that there may be market failure in emergency care and speciality care, but not in simple treatments such as cataract. If possible, it is preferable to deal with the market failure in emergency care and speciality care separately. In that case, an unlevel outcome-based level playing field for cataract treatments is no reason for government intervention.

Figure 10.1 Framework



Abstract

Pleas for a level playing field, for instance in international trade, are often not well-founded. This is because it is not exactly clear what a 'level playing field' means. But even if it would be clear what the plea would imply, a level playing field is not always desirable from an economic perspective. To clarify the meaning of 'a level playing field' we introduce two specifications of the concept. First, a rules-based level playing field, which means that all firms in a market are treated the same in equal circumstances with regard to legislation, taxes, subsidies etcetera. Second, an outcome-based level playing field, which means that all firms in a market have the same expected profit. This means that, in case firms are heterogeneous, the government compensates the disadvantaged firms (for instance with subsidies). The first conclusion in the report is that a rules-based level playing field is desirable, although there are reasons to deviate from this assumption. The second conclusion is that it is never desirable to pursue a fully outcome-based level playing field, but that it may be desirable to level the playing field to a certain extent in the case of market failure. In case of market failure it is preferable to use symmetric rules (equal for all firms), instead of asymmetric rules (favouring some firms). The report introduces a framework with questions that can help policymakers to analyse level playing field issues. The framework makes clear that one can not say, in general, whether a plea for a 'level playing field' is justified or not. It is necessary to focus on the policy issues hidden behind the plea, i.e. policy issues concerning market failure, dynamic efficiency, redistribution of income and differences in preferences between countries.

References

- Aghion, P. and P. Howitt, 1998, *Endogenous Growth Theory*, Cambridge and London: MIT Press.
- Aghion, P., N. Bloom, R. Blundell, R. Griffith and P. Howitt, 2002, Competition and Innovation: an Inverted U Relationship, *Working paper*, Harvard University.
- Akerlof, G., 1970, The Market for Lemons: Quality Uncertainty and the Market Mechanism, *Quarterly Journal of Economics* 84, pp. 485-500.
- Armstrong, M. and C. Doyle, 1998, Social Obligations and Access Pricing: Telecommunications and Railways in the U.K., in: D. Gabel and D.F. Weiman (eds), *Topics in Regulatory Economics and Policy Series. Opening networks to competition: The regulation and pricing of access*, Boston, Kluwer Academic, pp. 159-79.
- Atkinson, A.B. and F. Bourgignon, 2000, *Handbook of Income Distribution*, Amsterdam: Elsevier.
- Ayres, I. and P. Cramton, 1996, Deficit Reduction Through Diversity: How Affirmative Action at the FCC Increased Auction Competition, *Stanford Law Review* 48, pp. 761-815.
- Baumol, W.J., J.A. Ordover and R.D. Willig, 1997, Parity pricing and its critics: A necessary condition for efficiency in the provision of bottleneck services to competitors, *Yale Journal on Regulation*, vol. 14, pp. 145-63.
- Binmore, K. and P. Klemperer, 2002, The Biggest Auction Ever: the Sale of the British 3G Telecom Licenses, *Economic Journal* 112, pp. C74-C96.
- Boone, J., 1997, Competition and welfare, *CPB Report*, 97-4, pp 42-44.
- Bortolotti, B., 2001, Privatization, Large Shareholders, and Sequential Auctions of Shares, *Working paper*, Fondazione Eni Enrico Mattei.
- Britain in Italia, 2000, <http://www.britain.it/news/00mar/022e.htm>.
- Bulow, J., M. Huang, and P. Klemperer, 1999, Toeholds and Takeovers, *Journal of Political Economy* 107, 427-454.

Bundesverband Deutscher Banken, 2002, *Deutschland Voranbringen: Reformagenda für die Legislaturperiode 2002–2006*, <http://www.bdb.de/download/broschueren/reformagenda.pdf>

Canoy, M. and S. Onderstal, 2003, Tight Oligopolies: in Search of Proportionate Remedies, *CPB Document 29*, CPB Netherlands' Bureau for Economic Policy Analysis.

Cohen, W.M. and R.C. Levin, 1989, Empirical studies of innovation and market structure, in: R. Schmalensee and R. Willig (eds), *Handbook of industrial Organization, vol 2*, Elsevier Science Publishers.

CPB, 2001a, Competition and Stability in Banking, *CPB Document 15*, CPB Netherlands' Bureau for Economic Policy Analysis.

CPB, 2001b, Centraal Economisch Plan 2001, special topic, CPB Netherlands' Bureau for Economic Policy Analysis.

CPB, 2002, De pijlers onder de kenniseconomie; opties voor institutionele vernieuwing, *CPB Special Publication*, CPB Netherlands' Bureau for Economic Policy Analysis.

CPB, 2003, Zorg voor concurrentie; een analyse van het nieuwe zorgstelsel, *CPB Document 28*, CPB Netherlands' Bureau for Economic Policy Analysis.

Cramton, P., 1995, Money Out of Thin Air: The Nationwide Narrowband PCS Auction, *Journal of Economics and Management Strategy* 4, pp. 267-343.

Cramton, P., 1998, Ascending Auctions, *European Economic Review* 42, pp. 745-756.

Damme, E. van, 2002, The European UMTS-auction, *European Economic Review* 46, pp. 846-858.

DeBrock, L. and J. Smith, 1983, Joint Bidding, Information Pooling, and the Performance of Petroleum Lease Auctions, *the RAND Journal of Economics* 14, pp. 395-404.

DTe, 2002a, An overview of the first regulatory review of the regional electricity network businesses, unofficial translation, DTe.

DTe, 2002b, Maatstafconcurrentie Regionale Netbedrijven Elektriciteit, tweede reguleringsperiode, Informatie- en consultatiedocument (in Dutch), DTe.

European Commission, 2001a, White paper: strategy for a future chemicals policy, Brussels: COM(2001) 88 final.

European Commission, 2001b, Company Taxation in the Internal Market, *Commission Staff working Paper*, COM(2001) 582 final.

European Commission, 2002a, STAR 21; Strategic Aerospace Review for the 21st century, Brussels, European Communities.

European Commission, 2002b, Amended proposal for a directive of the European Parliament and of the Council, amending Directives 96/92/EC and 98/30/EC concerning rules for the internal markets in electricity and natural gas, COM(2002) 304 final.

European Commission, 2002c, Implementing the internal energy market; first benchmarking report, Luxembourg, European Communities.

Evaluation and Data Development, 1998, Evaluation of federal labour standards, SP-AH068-12-98E.

Gilbert, R. and D. Newbery, 1982, Preemptive Patenting and the Persistence of Monopoly, *American Economic Review* 72, pp. 514-526.

Goeree, J., M. Minkman and B. Moldovanu, 2001, Een Beoordeling van het Ontwerp van de Veiling van MBVP's langs Rijkswegen (A Judgement of the Design of the Auction of Petrol Stations along the Highways, in Dutch), *Consultancy Report*, University of Virginia.

Gorter, J. and R. de Mooij, 2001, Capital income taxation in Europe: trends and trade offs, *CPB Special Publication*, CPB & Sdu Publishers.

Gorter, J., 2001, Geen vaste grond onder belastingvoeten, *ESB*, 86(4329), pp. 782-783

Granderson, G., 2000, Regulation, Open-access transportation and productive efficiency, *Review of Industrial Organization* vol 16, pp. 251-66.

Huber, B., 1999, Tax Competition and Tax Coordination in an Optimum Income Tax Model, *Journal of Public Economics*, 71(3), pp. 441-58.

Jehiel, P. and B. Moldovanu, 2001, The European UMTS/IMT-2000 License Auctions, *Discussion Paper*, University College London and Mannheim University.

- Jenkins, B., 1998, Level playing field...or lawn cemetery, *Mining chronicles*
- Kanbur, R. and M. Keen, 1993, Jeux Sans Frontieres: Tax Competition and Tax Coordination When Countries Differ in Size, *American Economic Review*, 83(4), pp. 877-92.
- Keen, M., 2002, The German Tax reform of 2000, *International Tax and Public Finance*, 9(5), 603-621.
- Klemperer, P., 1998, Auctions with Almost Common Values: The 'Wallet Game' and its Applications, *European Economic Review* 42, pp. 757-769.
- Klemperer, P., 2002a, How (Not) to Run Auctions: the European 3G Telecom Auctions, *European Economic Review* 46, pp. 829-845.
- Klemperer, P., 2002b, What Really Matters in Auction Design, *Journal of Economic Perspectives* 16, pp. 169-190.
- Laffont, J.J. and J. Tirole, 1993, *A Theory of Incentives in Procurement and Regulation*, Cambridge and London: MIT Press.
- Laffont, J.J., P. Rey and J. Tirole, 1998, Network competition: overview and non-discriminatory pricing, *Rand Journal of Economics*, vol 29(1), pp. 1-37.
- Lemmen, J., 1998, *Integrating Financial Markets in the European Union*, Edward Elgar, Cheltenham, UK and Northampton, US.
- Lewis, T.R. and D.E.M. Sappington, 1999, Access pricing with unregulated downstream competition, *Information Economics and Policy*, vol 11(1), pp. 73-100.
- Lopez, S., M. Marchand and P. Pestieau, 1998, A Simple Two-Country Model of Redistributive Capital Income Taxation, *FinanzArchiv*, 55(4), pp. 445-60.
- Maasland, E., Y. Montangie and R. Van den Bergh, 2003, Levelling the Playing Field in Auctions and the Prohibition of State Aid, in: M. Janssen (ed.) *Auctioning Public Assets: Analysis and Alternatives*, forthcoming, Cambridge: Cambridge University Press.
- Maskin, E.S. and J.G. Riley, 2000, Asymmetric Auctions, *Review of Economic Studies* 67, pp. 413-438.

McMillan, J., 1994, Selling Spectrum Rights, *Journal of Economic Perspectives* 8, pp. 145-162.

MDW, 1998, Brief minister over herinrichting van de verkoop van motorbrandstoffen langs het hoofdwegennet, Dutch Ministry of Economic Affairs, The Hague, Kamerstuk 1997-1998, 24036, nr. 104, Tweede Kamer.

MDW, 1999a, Corporaties tussen vangnet en vrijhandel, Dutch Ministry of Economic Affairs, The Hague.

MDW, 1999b, Een Concurrerende Benzinemarkt dicht bij Huis (A Competitive Petrol Market Close by, in Dutch), Dutch Ministry of Economic Affairs, The Hague.

MDW, 2002, MDW-veilen en andere allocatiemechanismen, Dutch Ministry of Economic Affairs.

Mooij, R de, 2003, Heeft de vennootschapsbelasting een toekomst?, rede uitgesproken bij de aanvaarding van het ambt van hoogleraar Algemene Economie in het bijzonder fiscaal beleid en economie van de publieke sector aan de faculteit der Economische Wetenschappen van de Erasmus Universiteit Rotterdam.

Myerson, R.B., 1981, Optimal Auction Design, *Mathematics of Operations Research* 6, pp. 58-73.

OCW (2001), Grenzeloos leren; een verkenning naar onderwijs en onderzoek in 2010, Ministerie van Onderwijs, Cultuur en Wetenschappen.

Onderstal, S., 2002, Auctions for Extra Capacity in an Oligopolistic Market with Network Effects, *Working paper*, Tilburg University.

Razin, A. and E. Sadka, 1995, The Status of Capital Income Taxation in the Open Economy, *FinanzArchiv*, 52(1), 21-32.

Salmon, T., 2002, Spectrum Auctions by the United States Federal Communications Commission, in M. Janssen (ed.), Auctions and Beauty Contests: a Policy Perspective, Report prepared for the Dutch Ministry of Economic and the Dutch Ministry of Finance.

SER (2002), Koersen op vernieuwing: Advies over macrodoelmatigheid, innovatiebeleid en beroepspraktijkvorming in het (middelbaar) beroepsonderwijs, SER Advies 2002/12

Shy, O., 2001, *The Economics of Network Industries*, University of Haifa, Cambridge University Press.

Stiglitz, J.E., 1988, *Economics of the Public Sector*, Princeton University, W.W. Norton & Company, New York.

Vickrey, W., 1961, Counterspeculation, Auctions, and Competitive Sealed Tenders, *Journal of Finance* 16, pp. 8-37.

Williamson, O., 1976, Franchise Bidding for Natural Monopolies - In General and With Respect to CATV, *Bell Journal of Economics*, 7, 73-104.

Wilson, J.D., 1999, Theories of Tax Competition, *National Tax Journal*, 52, pp. 269-304