

IS POLDER-TYPE GOVERNANCE GOOD FOR YOU?

Laissez-Faire Intervention, Wage Restraint, And Dutch Steel

Hans Schenk

ERIM REPORT SERIES <i>RESEARCH IN MANAGEMENT</i>	
ERIM Report Series reference number	ERS-2000-28-ORG
Publication status / version	draft / version May 2000
Number of pages	28
Email address author	H.Schenk@fbk.eur.nl
Address	Erasmus Research Institute of Management (ERIM) Rotterdam School of Management / Faculteit Bedrijfskunde Erasmus Universiteit Rotterdam PoBox 1738 3000 DR Rotterdam, The Netherlands Phone: # 31-(0) 10-408 1182 Fax: # 31-(0) 10-408 9020 Email: info@erim.eur.nl Internet: www.erim.eur.nl

Bibliographic data and classifications of all the ERIM reports are also available on the ERIM website:
www.erim.eur.nl

ERASMUS RESEARCH INSTITUTE OF MANAGEMENT

REPORT SERIES *RESEARCH IN MANAGEMENT*

BIBLIOGRAPHIC DATA AND CLASSIFICATIONS		
Abstract	<p>This paper searches for the origins of the relatively successful performance of Hoogovens, the only sizeable steel firm in the Netherlands. It is suggested that Hoogovens has at critical moments benefited substantially from both strategic and financial support, but was basically left to decide its own policies. Luckily, it mostly opted for 'right' policies so that the industry's decline hit less hard in the Netherlands than elsewhere thus making it less necessary to develop emergency programmes. More specifically, Hoogovens chose to diversify into the aluminium market at a relatively early stage, and it broke up its merger with Germany's Hoesch. However, Hoogovens also benefited from the Polder Model's emphasis on wage restraint as much of the firm's output is exported. Moreover, corporatist welfare arrangements allowed Hoogovens to shed labour without causing extraordinary unrest. It is concluded that the success of 'laissez-faire intervention' heavily depends on the qualities of the supported firm's management. Polder-type governance in terms of wages and labour has beneficial effects in the short run, may but retard innovation.</p>	
Library of Congress Classification (LCC)	5001-6182	Business
	5546-5548.6	Office Organization and Management
	5548.7-5548.85	Industrial Psychology
	HD 3611	Industrial policy
Journal of Economic Literature (JEL)	M	Business Administration and Business Economics
	M 10	Business Administration: general
	L 2	Firm Objectives, Organization and Behaviour
	L 52	Industrial policy
European Business Schools Library Group (EBSLG)	85 A	Business General
	100B	Organization Theory (general)
	240 B	Information Systems Management
	160 D	Industrial economics
Gemeenschappelijke Onderwerpsontsluiting (GOO)		
Classification GOO	85.00	Bedrijfskunde, Organiseertheorie: algemeen
	85.05	Management organisatie: algemeen
	85.08	Organisatiesociologie, organisatiepsychologie
	83.67	Industrie
Keywords GOO	Bedrijfskunde / Bedrijfseconomie	
	Organisatieleer, informatietechnologie, prestatiebeoordeling	
	Staalindustrie, Industriebeleid, Noordelijke Nederlanden, Loonmatiging	
Free keywords	Dutch Miracle; industrial policy; steel industry	
Other information		

Is Polder-Type Governance Good For You?

Laissez-Faire Intervention, Wage Restraint, And Dutch Steel

(Draft May 2000)

HANS SCHENK¹

Erasmus Research Institute of Management

Erasmus University Rotterdam

P.O. Box 1738

3000 DR Rotterdam

The Netherlands

Tel: +31-10-4082005

Fax: +31-10-2440421

e-mail: H.Schenk@fbk.eur.nl

web site: <http://www.strategyaterasmus.net/fm/schenk/personal.html>

Abstract

This paper searches for the origins of the relatively successful performance of Hoogovens, the only sizeable steel firm in the Netherlands. It is suggested that Hoogovens has at critical moments benefited substantially from both strategic and financial support, but was basically left to decide its own policies. Luckily, it mostly opted for 'right' policies so that the industry's decline hit less hard in the Netherlands than elsewhere thus making it less necessary to develop emergency programmes. More specifically, Hoogovens chose to diversify into the aluminium market at a relatively early stage, and it broke up its merger with Germany's Hoesch. However, Hoogovens also benefited from the Polder Model's emphasis on wage restraint as much of the firm's output is exported. Moreover, corporatist welfare arrangements allowed Hoogovens to shed labour without causing extraordinary unrest. It is concluded that the success of 'laissez-faire intervention' heavily depends on the qualities of the supported firm's management. Polder-type governance in terms of wages and labour has beneficial effects in the short run, may but retard innovation.

Keywords: Dutch Miracle; industrial policy; steel industry

¹Tilburg University and Erasmus University Rotterdam, the Netherlands. The author would wish to thank the participants at the 1999 Governance Workshop at Nuffield College (Oxford University), and particularly Paul 't Hart, for suggestions and comments, and Yvo Nelissen for preparatory assistance. The usual disclaimer applies. Contact: E.J.J.Schenk@kub.nl

Introduction

Just before the turn of the century, British Steel acquired one of the best performing European steel producers of the late-1990s, Hoogovens of the Netherlands. While only less than half its size in terms of sales, and only just a bit larger than a third in terms of steel production, Hoogovens realised net returns of DGL 415 mln as against DGL 697 mln for British Steel (BS) in 1998 (for some basic indicators on Hoogovens, see Appendix Table A).² Preliminary figures on the first six months of 1999 even indicate that BS suffered a loss of DGL 600 mln, while Hoogovens made profits of DGL 200 mln. Provided that the newly formed firm will be able to wrench synergy from the merger, which in view of the generally negative performance effects of large mergers is far from certain (see Schenk, 2000), BS may well have realised a move that will strengthen its position within the industry as the new firm, now listed under the name of Corus, has cornered Europe's no. 1 and the world's no. 3 spot (see Table 1).

*****Table 1 about here*****

The fact that Hoogovens is virtually synonymous to Dutch steel offers a unique opportunity to find out to what extent its relative success in weathering through the sector's decline can be explained either by Dutch forms of governance or by firm-specific causes such as 'quality of management'.³ In this paper, I will not be able to address this question in full. However, I will examine parts of the evidence by discussing several competencies of Hoogovens as a firm and by reviewing elements of Dutch industrial policy in general as well as pertaining to steel.⁴ The

²At the time of writing, DGL 1 \approx Euro 0.5.

³ To be more precise, there is one other steel firm in the Netherlands, Nedstaal. Established in 1938, it was taken over by Thyssen from Germany but regained its independence in 1998. Total production of Nedstaal is estimated at approx. 3-6 per cent of Hoogovens's. Its main input is scrap steel. Demka, the first Dutch commercial manufacturer of steel (founded in 1915) became a fully owned Hoogovens subsidiary in 1964 but its mills were closed down in 1983. In addition, one of the largest and most acquisitive steel makers in the world, Ispat International, is incorporated in Amsterdam and quoted at the Amsterdam Stock Exchange as well as Wall Street, but it has no operating subsidiaries in the Netherlands. Ispat is a subsidiary of LNM Group, headquartered in the UK.

⁴ Large parts of Hoogovens's history as a firm have been documented exhaustively; see De Vries (1968) and especially Dankers and Verheul (1993). Since the latter overlaps the former, I was able to rely on the latter only;

paper begins in the following section with a discussion of the industrial policy setting in order to establish what Polder-type governance entails. The two subsequent sections will be more directly focused on Hoogovens itself. In the longitudinal perspective taken, I have chosen 1982 as a cut-off point as Hoogovens abandoned its merger with Hoesch and had to make a new start as an independent firm in that year. The paper concludes with a preliminary assessment of the role that governance played in Hoogovens's success and therefore amounts to an assessment of success or failure in Dutch governance.

Industrial policy setting

The Netherlands has a tradition of economic liberalism that goes back as far as the late-sixteenth and seventeenth century when this country—following its dependence on international trade with its colonies—established itself as arguably the most liberal country of Europe (Van Zanden, 1999).⁵ Throughout the second half of the 20th century, this liberal orientation survived although the government at times was willing enough to lend support to certain firms. A rather peculiar characteristic of the Dutch model of liberal governance was the gradual increase of tripartite consultations and a deliberate and government-led focus on wage restraint culminating in the by now rather famous Wassenaar agreement of 1982. Tripartite consensus-building only decreased in importance during the late-1980s and 1990s, when the economy appeared to be on a steady growth trajectory again and new-economy individualism began to manifest itself.

Pre-war origins. The economic crisis of the 1930s had initiated the first steps towards what was to become a more intimate government involvement with industry during the post-World War II industrialisation process. The crisis also challenged the labour movement to come up with alternative ideas on development. Unions started to collaborate with regional and local governments in order to foster and guide industrial development, among others by helping to set up semi-public industrial banks as well as so-called Economic-Technological Institutes that were to map the routes of industrialisation. These initiatives were all grounded in what was called 'engineer's socialism', i.e. the idea that smart engineers would be able to select

see the appropriate references in the text. Information concerning Hoogovens that is not referenced is taken from the steel archives of GRASP Research (Erasmus University Rotterdam) that mainly consist of newspaper clippings from NRC Handelsblad; de Volkskrant; het Financieele Dagblad; Financial Times; and the Economist.

⁵ The term 'liberal' is used in its European meaning, i.e. as an ideology that is definitely pro free markets.

and/or develop projects that were financially feasible if only their social returns were included in investment calculations. However, in the end these initiatives were quite unsuccessful as the government hesitated to proceed to full-fledged support for fear of being accused of preferential treatments (Tellegen and Brouwer, 1998). Yet, this involvement of labour unions in industrial development sowed the first seeds of post-World War II industrial policy corporatism by making the unions an accepted party to industrial policy consultations.

Post-war industrialisation (1940s-1960s). Following World War II, the government while formally retaining a non-interventionist approach, laid down several industrialisation policy papers in which it was announced that the industrialisation of the Netherlands should be pursued with determination and led by the development of basic industries such as chemicals and steel. A policy of guided wages was initiated immediately after the war. It was to be effective almost unopposed and without significant changes until 1959, and it has been observed that no other system of administered wage determination did as well for an equally long period of time (Windmuller, 1969; Visser and Hemerijck, 1997). Around 1960, wages were an estimated 20 to 25 per cent below those in Germany and Belgium. The guided wage policy's very success in terms of continuity during the 1950s became, however, its undoing in the 1960s when wages exploded in order to make up for lost purchasing power.

The industrialisation targets that were put forward were to be realised by means of self-serving and independent business firms. The government was not to interfere with private considerations, certainly not in terms of selective (specific) intervention. Yet, some experiments in industrial policy were undertaken, according to Van Zanden (1999) probably just because schemes for future spending had to be made in order to qualify for Marshall Aid funds.

Thus, and apart from the usual generic tax facilities, substantial financial support was granted to such firms as AKZO's predecessor Koninklijke Zout, the chemical divisions of DSM, Shell's Pernis refinery, and also Hoogovens. All these firms are still major players in the Dutch economy. A Reconstruction Bank (Herstelbank), with the government as the majority shareholder, was set up to channel parts of this support. Private shareholders, mainly banks and institutional investors, were to obtain a government-guaranteed return of 3.5 per cent on their investments. Occasionally, the state took part in private firms, but such stakes remained quite small. Industrialisation as such, however, was high on the agenda of Dutch politics. Together with full-fledged promotion campaigns and government-enforced wage restraints, this pointed the Dutch economy in a direction that was to benefit Hoogovens as this

firm was increasingly focusing on export markets.

Specific state intervention only started to become more apparent by the end of the 1960s when several industries as well as large firms turned into decline, or as in the case of regions, appeared not to be able to catch up. One such region was in the north-eastern part of the Netherlands, that is close to the sea. It was here that Hoogovens participated in a joint venture to set up an aluminium industry backed by long-term guarantees of low-cost supply of energy (see below). Already in 1967, similar facilities were granted to the French aluminium firm P  chiney in order to seduce it into setting up smelter facilities in another relatively backward coastal region, this time in the south-west. Together, these two firms eventually made the Netherlands into Europe's largest exporter of this non-ferrous metal.

The 1970s and 1980s. As in other countries, industrial policy during the 1970s and early 1980s came to focus more heavily on the support of declining industries and particularly of individual so-called leading firms. Its ways and means were similar too (Schenk, 1987). First, financial support was only rarely conditioned on strategic restructuring and replacements of incumbent management teams. Thus, decline was almost exclusively seen as an inevitable consequence of unfavourable economic circumstances, in spite of abundant evidence of management failure and inadequate managerial practices. Consequently, 'temporary' support by means of subsidies meant to bridge the difficult times was legitimate. Secondly, Dutch industrial policy sought to improve the fate of declining firms and industries by pressing for mergers and acquisitions. Vested beliefs in the force of scale economies led to the creation, in 1972, of a Restructuring Corporation (Nehem, similar to the IRC in Great Britain) which was given the explicit task to forge mergers and acquisitions among medium-sized firms. Due to insufficient follow-up support, the Nehem largely remained ineffectual.

However, large-scale concentrations were more directly encouraged (or even concocted) by the Ministry of Economic Affairs—with sometimes disastrous effects. Thus, billions of public money were spent on firms that eventually went bankrupt (or almost so) nevertheless. RSV Shipbuilders became a landmark case of ineffectual and inefficient industrial policy (Wassenberg, 1983). Encouraged by the government, several shipbuilders merged to become RSV in 1971, were granted more than 2.5 billion DGL in subsidies during the following ten years, but allowed to continue their woefully inadequate management practices. After several phases of demerger, and a suspension of all payments in 1983, the firm was finally liquidated in 1993. The RSV-case became the standard 'proof' of the impossibility of specific industrial policy and was invoked time and again to criticise ongoing,

or preclude requested support measures. It never occurred to the policy makers that, in fact, the rescue operation failed because it was sought via merger. However, in some important cases public funds did allow firms to overcome cyclical downturns, among them Hoogovens (Dercksen and Schenk, 1982).

Meanwhile, a tightly knit corporatist network had evolved on the basis of the post-war co-habitation of market and planning ideologies. Thus, when unions and employers, watched over closely by the government, concluded the wage-restraint-in-return-for-work agreement of Wassenaar in 1982, generally seen as the 'official' beginnings of the Polder Model, the same parties had already met to discuss the implications of a novel approach to industrial policy that had just been advocated by an authoritative advisory committee (WRR, 1980). I will return to this below.

For now, Dutch industrial policy did not endeavour to work according to some elaborate sort of industry blue print. The institutions of industrial policy were mainly meant to offer financial backing against unfavourable conditions, sometimes in the form of government subsidies, sometimes in the form of small state holdings, and sometimes in the form of government-backed loans. The more it became evident that many firms were not able to manage themselves through adverse economic conditions, including several of the biggest multinationals, the more subsidies increased. The late-1970s and early-1980s became the high era of government subsidies to industry. In none of these cases was the support conditioned on a substantial increase of government control over firm decision making.

Such subsidies were debated quite vigorously. The debate was basically between those who argued that subsidies were given to the wrong firms on the one hand, and those who argued against government subsidies tout court as those subsidies prevented the market mechanism from fulfilling its cleansing tasks. The first argument was most forcefully put forward by an advisory committee of the independent WRR-thinktank, led by a social-democratic professor of economics, Arie Van der Zwan (WRR, 1980).⁶ According to the

⁶ The 'Wetenschappelijke Raad voor het Regeringsbeleid' (literally: Scientific Advisory Council on Government Policy) was formed in 1972. Though initiated by the government, and founded by a Royal decree (enforced by law in 1976), it is an independent advisory body with a relatively small staff but ample opportunities to recruit ad hoc experts. Its task is to focus especially on long-term developments by means of applied research. Together with the SER (Social and Economic Council, a tripartite advisory body founded in 1950) and the Centraal Planbureau (CPB, founded in 1945 to develop forecasts and plans on the basis of large econometric models of the Dutch economy, now a more general bureau for economic policy analysis), it is one of the most reputed and important advisory bodies in the Netherlands.

WRR, support should be given to selected sun-rise industries and firms, instead of sun-set, smoke-stack industries. Since the latter largely coincided with low value-added industrial activities, the WRR also argued for turning around those manufacturing firms that were focusing on basic product markets.

The WRR suggestions became effectively buried when the government appointed an assessment committee in which business interests were over-represented. Although the importance of moving the Dutch economy into high-tech industries was upheld, the committee, which after its chairman G.A. Wagner (a former Shell CEO) was unofficially known as the Wagner-committee, stressed again the importance of wage restraint and free markets. On the one hand, this changed most of what was to remain of industrial policy into technology policy under which a broad collection of relatively small-scale support programmes was born. On the other hand, it started to lead the Dutch away from the traditional corporatist way of consensus-building, and towards the Anglo-Saxon veneration of deregulation and privatisation (see Hulsink and Schenk, 1998).

Interestingly, this did not eliminate the granting of large-scale financial support to a handful of large firms that were perceived as important to the Dutch economy. As will be seen below, one of those firms was, again, Hoogovens. Others were Philips, Volvo, Daf-Trucks, and Fokker.⁷ The interventionist, subsidy-focused part of the Dutch governance model receded only when the international 1990s boom appeared to be persistent, and subsidies consequently became superfluous.

As Table 2 demonstrates, the Wassenaar-agreement was quite effective in slowing

⁷ In the 1990s the Dutch government came up with a quite innovative solution for channelling funds into private firms, the so-called technolease scheme (see Hulsink and Schenk, 1998). This facility was applied most conspicuously though at first secretly in the Fokker drama (1994) and as an emergency backing for Philips (1993). Under this scheme, which is equivalent to the sale-and-lease-back schemes which are widely used for tangible assets, a firm sells (part of) its as yet undepreciated know-how to another firm, usually a bank, upon which it is leased from this other firm. The latter enjoys considerable tax benefits as the purchasing costs can be deducted from profits, while the former immediately receives a substantial cash flow. Evidently, the scheme is most attractive if the former firm's profits are not sufficient to allow full depreciation while the latter firm's profits are. The indirect state subsidy amounts to the opportunity loss as a result of lower and/or postponed tax collections. The gross cash flows for the two firms mentioned alone amounted to at least one billion euro but perhaps to as much as 1.7 billion euro whereas the attendant risks were largely covered by complex vice-versa payments and put-option clauses. The facility became subject of controversy between the European Commission and the Dutch government but was found acceptable in 1999.

down wage growth. For almost any year, standard disposable income growth trailed productivity increase. While real productivity increased by 3.8 per cent in 1994, standard disposable income even decreased by 0.4 per cent. During 1984-1996, the real costs of labour in the private sector grew with only a meagre 0.8 per cent annually. Table 3 demonstrates that the Dutch policy of wage restraint, indeed, caused wages to increase again much less than in other countries.

*****Table 2 about here*****

*****Table 3 about here*****

Summarising, the first thirty-five years of post-World War II Dutch governance were characterised by the gradual build-up of a corporatist system for which the foundations were already laid during the pre-war years. The government consistently, and apart from a wage explosion during the 1960s successfully, compelled and later urged unions and employers to moderate wages as this was thought to result in the build-up of a strong industrial base via investment of the proceeds. Firms were encouraged to attain larger scale by means of mergers and acquisitions, while the government at the same time kept a blind eye to, or even triggered the rise of many cartel-like arrangements (see De Jong, 1990). Although the cycle of subsidies to industry in the Netherlands was not much different from that in other EU (or even OECD) countries, the extent of subsidies has always been moderate in a comparative sense (Schenk, 1993).

The Dutch model as it prevailed until the early-1990s can therefore be seen as a typical mixture of (rather limited) financial support of businesses, non-interference with business decision making, and wage restraint, against a background of consensus-making rather than fierce competition. This typically Dutch variety of industrial governance could perhaps be specified best by the somewhat paradoxical oxymoron of 'laissez-faire intervention'. That is, grant subsidies when large firms are in trouble (specific intervention), but do not interfere with managerial practices (non-intervention), and for the remainder: trust that wage restraint policies will do the job (generic intervention). More generally, the corporatist form of governance also led to a welfare system that allowed firms to shed thousands of workers without causing large-scale labour unrest. According to some observers,

the extensive welfare system was arranged as a sort of implicit compensation for wage restraints.

Pre-1982 steel: the case of Hoogovens, pt. 1

Hoogovens (in full: Koninklijke Nederlandsche Hoogovens en Staalfabrieken or Royal Dutch Blast Furnaces and Steel Plants) was established in the aftermath of World War I when Dutch industrialists wished to decrease their almost total dependence on foreign imports of steel. Backed by the Dutch government, which took a 25 per cent stake and gave its promise to provide Hoogovens with cheap coal from its own mines, the City of Amsterdam, which took a 17 per cent stake in return for Hoogovens's decision to locate in a coastal site near IJmuiden (close to Amsterdam), and banks that were rather suddenly developing a taste for industrial finance, production commenced in 1924 (Appendix Table B gives an overview of the central government's stakes in Hoogovens).

As we have seen, the industrialisation plans that were made following World War II involved steel as a strategic industry and therefore Hoogovens as a strategic firm. Helped by Marshall funds and funds provided by the *Herstelbank*, the firm was meant to become an important supplier of steel to Dutch industry, especially shipbuilding. Government support was so extensive that the state would have obtained a majority stake in Hoogovens if the funds had gone straight into the firm. In order to prevent this, it was decided to set up a formally separate firm, *Breedband*, which would be almost fully owned by the state. In keeping with its non-interventionist ideology, however, the government decided to officially delegate managerial authority to the Hoogovens management. Technically, *Breedband* would be an indistinguishable part of Hoogovens as it would be totally integrated in the IJmuiden works. Although this solution was pretty much unique, even for the Netherlands, it fittingly symbolised the governance model of *laissez-faire* intervention, i.e. a form of governance in which financial support was granted to strategic firms without a matching control over their decisions.

The *Breedband* 'division' proved very successful. Demand for its flat-rolled products was so favourable that by the 1960s Hoogovens felt that it might want to add another similar rolling mill in the near future (Dankers and Verheul, 1993). However, such would make the already complicated *Breedband*-State-Hoogovens construction even more so. Consequently, Hoogovens opened negotiations for taking over *Breedband* in 1960. The acquisition was realised in 1964. To the Dutch state, the *Breedband* sell-off turned out to be rather profitable

as it managed to negotiate a price that was more than five times the original investment (during the preceding years, it had also received substantial dividends). As part of the deal, the government also saw its stake in Hoogovens increase to 30 per cent.

Breedband's production capacity was much larger than domestic consumption of its products. Thus, Hoogovens got an incentive to conquer foreign markets which, incidentally, was not too difficult as demand for flat products and coated steel (especially tin plate) was on a fast increase everywhere in the developed economies. Besides, the firm had already been more or less forced to focus on export markets, especially the US, as a result of strenuous relationships with the Dutch shipbuilders' purchasing co-operative during the late 1940s and early 1950s (Dankers and Verheul, 1993). As a consequence, Hoogovens became the perhaps most internationalised steel manufacturer of the EC (for later years, see Appendix Table C). This had several effects. First, Hoogovens became accustomed to selling at world market prices, which must have forced it to stress productive efficiency and product quality at a relatively early stage. Secondly, the firm became a relative outsider to European policy cabals which explains why Hoogovens could consistently maintain that survival in the European steel industry should be more a matter of productive efficiency than of national predilections. Finally, supplying many different export markets made Hoogovens less vulnerable to regional problems of excess capacity.

Another decision that was to determine Hoogovens's future to a large extent was taken in the early 1960s, i.e. soon after huge natural gas reserves had been discovered in the relatively backward north-eastern part of the country. Having learned that Billiton, a Dutch firm active in the mining of bauxite in Suriname (one of the Netherlands's former colonies), was expecting to obtain energy supplies at discount prices in return of setting up a new aluminium smelter in the north-east, it offered to bring in its technological expertise and investment strength in a joint venture. After the government had, indeed, agreed to an especially attractive pricing scheme for the supply of energy, Hoogovens and Billiton teamed up with Alusuisse, that had both technological and marketing knowledge on offer, to establish Aldel in 1964. With a stake of fifty per cent, Hoogovens became the dominant party. It proved the first step on the road that would lead to Hoogovens becoming, next to Japan's Kobe Steel, one of only two steel firms in the world with substantial interests in the production of aluminium.

The acquisition of an aluminium branch seemed a just decision at the time as new production techniques in major steel consuming industries were rapidly transforming input requirements. For example, by 1985 in a typical US car model 44 per cent less steel and 65

per cent less iron were used than in its precursor of 1975, but 81 per cent more aluminium (see Table 4). More generally, the 1970s brought a departure from the long-term growth trend that could not be attributed to cyclical factors. Between 1973 and 1980, consumption of steel in advanced market economies fell by 13 per cent although GNP and industrial production rose by about 15 per cent (Ballance and Sinclair, 1983).

*****Table 4 about here*****

In contradistinction to several of its bigger competitors, such as British Steel, Hoogovens seems to have appreciated the structural changes rather well. Or was it just luck, triggered by the availability of huge natural gas reserves and an industrial policy that wished to use these reserves in part to the benefit of the relatively backward region under the surface of which they were hidden? Indeed, according to De Voogd (1993), referring to an interview with former Hoogovens CEO J.D. Hooglandt (member of the Board from 1970-1988), Hoogovens did not appreciate the structural changes until the mid-1970s. Still, this was at least several years earlier than the industry's International Iron and Steel Institute that kept on forecasting a growth of demand for well into the 1980s. In any event, Hoogovens appeared to be well-equipped to confront the changes that were coming. Evidently, this would increase the chances for *laissez-faire* intervention.

Unfortunately, this potential advantage appeared to be compromised significantly in another area of the firm's pursuits. In 1972, Hoogovens succumbed to the management flavour of the time by merging with Germany's Hoesch to form Estel. The third merger wave of the century was going to demand another of its countless victims though on paper, as with most mergers, the logic seemed impeccable at first. Following negotiations with the American and British occupational forces, Hoogovens had managed to convert a pre-war stake it had in Germany's Phoenix steel works into a substantial minority stake in Dortmund-Hörde-Hüttenunion (DHHU), one of the larger German steel firms that was created after the split-up of Vereinigte Stahlwerke, in 1953. However, this participation proved to be problematic for various reasons (see Dankers and Verheul, 1993). When Hoesch, also located in Dortmund, proposed to take over DHHU via an exchange of shares, so that it would be able to rationalise the Dortmund locations, this would release Hoogovens from a problem while obtaining part of the proceeds if any of those would be forthcoming. Thus, in 1966, it agreed on the

condition that the deal would also entail productive rationalisation among Hoesch and Hoogovens. Hoesch's inland site was supposed to specialise in the manufacture of downstream steel products whereas Hoogovens's coastal site would focus on the production of semi-finished steel, just like a text book would have it. The ECSC's approval for the pseudo cartel was obtained by invoking scale economy and rationalisation arguments, but according to Dankers and Verheul (1993), it is quite remarkable that such arguments were only occasionally used in internal Hoogovens documents, apparently because the Hoogovens management was not so certain that the attendant effects would really be forthcoming. It was not surprising, then, that the arrangement in actual fact hardly materialised.

The third merger wave of the century, peaking in the US around 1969, suggested the ultimate—but in fact mostly illusory—solution to the typical problems of co-ordination in alliances: merger. Thus, Hoogovens and Hoesch proceeded to form the first really international steel firm in 1972. By size, the firms suddenly jumped to third place in Europe, and it was believed that this would strengthen their position within EC negotiation processes considerably. While this may have been true, it could not, of course, solve the major problem of oligopolistic competition in capital-intensive industries, the pre-emptive creation of excess capacity (see e.g. Cowling, 1982). Moreover, it only made things worse as teaming up with a German major sucked Hoogovens into the problems of co-ordination that were manifest in the largest steel market of Europe. On top of this, problems of style of management abounded. These problems were not very different from those encountered by other merged firms, but they were more visible as Hoesch and Hoogovens never formally integrated but built an intermediate holding instead. This implied that strategic decisions still required the consent on equal terms of the non-executive boards of both firms despite the fact that Hoogovens had a factual majority share in Estel as a result of the minority stake in Hoesch which it had negotiated as part of the DHHU-deal. Although this, at the time, was regarded a serious failure (Dankers and Verheul, 1993), with hindsight it can only be concluded that it eventually proved Hoogovens lucky. For it was now easier to break up the merger too.

As soon as the tide turned against expansive capacity investments during the steel crisis of the second half of the 1970s, which was even before the new, expensive headquarters could be inaugurated, the Estel merger started to show signs of fatigue. The tensions between the constituent parts, that had never fully disappeared as each continued to operate as an individual profit centre, now increased as decisions had to be made with respect to lay-offs and closures instead of new investments. Evidently, Hoogovens was the more modern subsidiary, but Hoesch was more closely linked to major markets, especially the car industry.

Thus, the recurrent question was which location was to undergo surgery. After having already taken years of managerial inputs to implement the merger, now an additional input was needed to manage iterative conflicts.

Probably the largest conflict concerned the significant losses that were incurred by Hoesch. According to the merger arrangement, Estel was to cover up for these losses, which in effect meant that Hoogovens had to take the burden. During 1981, Estel could no longer carry the losses and applied for government support. The Dutch government was rather willing to support Estel, but only on the condition that the German government on its part would come up with a similar support. However, the Germans were only prepared to do so if it was implied that the Estel restructuring would be part of a larger restructuring of the German steel industry, in particular collaboration with Krupp. Since this would draw Hoogovens even further into the loss-making parts of German steel, it finally decided, under pressure from its Dutch banks including the successor to the *Herstelbank*, to try and abandon Estel at as favourable conditions as possible. The Dutch government still tried to save the merger but its efforts were later widely interpreted as meant to prevent high indemnity claims from the German side which undoubtedly would have been issued if it had become clear that the Dutch side had in fact been plotting the break-up of the merger. Since Hoogovens also succeeded in leaving Hoesch to carry the can, Estel was dissolved by mutual consent in 1982, exactly ten years after it had been established.

Thus, while the state had been instrumental in getting Hoogovens on the map, and in re-establishing the firm after World War II, in part by taking large minority stakes, it had refrained from substantive interference with decision making. Nevertheless, its indirect and strategic support was substantial throughout the first thirty-five or so years following World War II, probably even crucial when it was needed most, i.e. when a tough game of power had to be played in the breaking up of Estel. Indeed, it is remarkable how well this game was played by the Dutch side, i.e. how well-co-ordinated the government and Hoogovens's executive as well as non-executive board knew how to outsmart the German side.

*****Table 5 about here*****

Support in terms of direct subsidies, however, was comparatively small in size, especially when expressed in terms of installed capacity (see Table 5). For example, during the five-year

period of 1975-1979, the Dutch steel industry (i.e. Hoogovens) received the smallest amount of government subsidies in the European Community, although this still amounted to about DM 22 mln (approx. DGL 25 mln). As Table 5 also demonstrates, this was due to change significantly during the 1980s, although financial state support still remained minor in a comparative sense.

Post-1982 steel: the case of Hoogovens, pt. 2

A fault confessed is half redressed. Thus, following the break-up of Estel, a substantial restructuring of Hoogovens should now correct what was called the ‘imbalance’ that had been created in the IJmuiden works as Hoogovens and Hoesch had decided to focus IJmuiden on the initial stages of production and the Dortmund location on the later stages of steel production and finishing. A DGL 2.7 bln investment plan was presented to the Ministry of Economic Affairs, of which the government pledged to finance almost a third by means of (a) a subsidy of DGL 195 mln meant to undertake ‘strategic’ investments in IJmuiden; (b) a subordinated loan of DGL 570 mln, on favourable terms, which was to be used to bridge the debts from the Estel demerger; and (c) an addition to equity of DGL 130 mln, unless the capital market would be able to carry an offering to this amount (Dankers and Verheul, 1993). In addition to this, the Dutch government set apart an amount of DGL 150 mln as a contingency loan to be used in case this was ‘deemed necessary’.

The arrangement signalled, for the first time, a much increased role of the government in Hoogovens’s decision making. First, the government’s right on information was stepped up substantially. Second, it was awarded the right to veto important decisions. Thus, Hoogovens was required to report to the Ministry on a monthly basis, and was not allowed to take certain decisions without government consent, ranging from lay-offs to executive pay. The Ministry, however, never made use of the also agreed, but heavily contested, possibility of appointing a surveillant in the firm’s board in addition to the two government representatives, both high-ranking civil servants, which it already had on the non-executive board. As far as known, the government never really blocked proposals from the firm.

Meanwhile, the Ministry of Finance started complaining about the gainful energy-deal that had been arranged earlier between Aldel and the Ministry of Economic Affairs. The Finance ministry argued that the support measures that had been taken in the aftermath of the Estel break-up were so lucrative that it was about time to redress the energy-support that it calculated at DGL 150 million annually. To Hoogovens, however, that was unacceptable. It

replied that it was prepared, and willing, to give up its aluminium business if the Finance ministry were to get its own way. Obviously, to the Ministry of Economic Affairs such would mean both a loss of inter-departmental esteem and a possible setback to its regional policy for the north-east, so it kept on backing Hoogovens in the dispute. Through intervention of the Prime Minister a deal was struck that implied that the energy price support would be adapted (downward) to the prices paid by Aldel's foreign competitors, especially P echiney.

Interestingly, as has already been noted above, P echiney was operating in the Netherlands too, making extensive use of electricity generated by the Netherlands's only substantial nuclear plant. Both in the Netherlands and in its home country France it was benefiting enormously from the huge subsidies that had been, and still were, granted to nuclear energy facilities. As a consequence, adapting the energy prices could not possibly amount to very much so that Hoogovens and the Ministry of Economic Affairs could be certain that they had concluded an arrangement that would be favourable to them. As a matter of fact, the various support measures remained effective indeed.

As if to prove the Ministry of Economic Affairs right, Hoogovens's performance improved so much during the following years that a public offering in 1984 was successful. As Appendix Table A demonstrates, 1984 was the first of three consecutive years during which Hoogovens would realise positive net returns whereas cash flows had already improved substantially. Consequently, the government did not need to fully implement its pledge of equity support nor was it necessary for Hoogovens to break into the promised contingency loan. Following its newly acquired privatisation policy (see above), the state even sold off a substantial part of its stake in Hoogovens in 1986, thus reducing its ownership to 15 per cent. By the end of that year, state ownership was effectively at 13.5 per cent (see Appendix Table B).

Part of the performance improvement was due to the fact that Hoogovens had introduced the more efficient method of continuous casting that had been in use in other countries already since the 1970s. This late adoption allowed Hoogovens to comply rather painlessly with the EC's capacity reduction demands as it simply closed down several of its outdated facilities. Besides, being relatively late in one respect normally creates a chance to reap first-mover advantages in another when technological development has meanwhile continued. Indeed, Hoogovens became the first steel manufacturer to successfully introduce computer-integrated manufacturing (Dankers and Verheul, 1993). Consequently, a smaller but state-of-the-art steel works was born.

Thus, Hoogovens succeeded in improving its performance considerably at the same

time that Europe was going through a severe steel crisis. While government support was crucial at the time that Hoogovens wished to give up its merger with Hoesch, much of the improvement was the result of internal restructuring. As can be seen from Appendix Table A, the restructuring of Hoogovens—rather than the steel crisis of the early 1980s as such—took its toll from labour. Between 1982 and 1986, approximately 3,000 jobs were shed in Hoogovens's steel division while production volumes declined substantially only from 1981 to 1982. This reduction in employment of approximately 14 per cent was almost fully realised without forced dismissals. Sheltered by the Polder Model's corporatist agreement structure, special redundancy and early retirement schemes were set up that softened the pain to a certain extent. During the second half of the 1980s similar redundancy packages were agreed which allowed Hoogovens to axe another 2000 jobs in a further drive to increase productivity. Steel production volumes remained almost stable.

Hoogovens's policy of diversification into high value-added markets was probably not much different from its rivals so that it is unlikely to have contributed to the firm's relatively good performance. Moreover, it was partly abandoned when rather suddenly an opportunity rose to acquire Kaiser's European aluminium businesses from its troubled US parent in 1987. While aluminium had remained a suppositious activity for a long time, especially during the Estel troubles, Hoogovens jumped at the chance to become a major player—only a few years after it had shown itself prepared to sell off its aluminium activities altogether (see above). Together with modernisation and extension of its own facilities (such as those at its Sidal subsidiary in Belgium), the acquisition of Kaiser Europe made Hoogovens the no. 4 aluminium producer in Europe. Total production increased twofold and in 1988 Hoogovens's aluminium activities made up only a bit less than 35 per cent of total sales. Hoogovens therefore more or less stumbled into a so-called two-metals strategy, a strategy which, however, served it well, at least until the early 1990s.

The largest lay-offs occurred during the steel crisis of the early 1990s. About 4,000 steel jobs were lost before employment picked up again in 1995. Paradoxically, however, Hoogovens's steel production volumes increased throughout the crisis-years. Thus, the lay-offs were obviously a result of intensified down-sizing efforts. Again, the Polder Model proved its effectiveness for Hoogovens, as society as a whole carried large parts of the burden by hiding many of the employees that were sacked in social welfare arrangements including disability facilities.

Assessment

Polder-type governance during the second half of the twentieth century consisted of specific support, both financially and strategically, to several large firms deemed to be important to the Dutch economy. Such support was not accompanied by a concomitant share of government in firm decision making and can therefore be classified as 'laissez-faire intervention'. Polder-type governance did not entail development programmes based on industrial blue prints, but left firms to decide whether to expand or contract. Such decision making, however, was surrounded by government policies that stressed the importance of international competitiveness. Since the Dutch economy was (and is) heavily dependent on exports, it follows that wage restraint was likely to become an important policy goal. More generally, the Polder Model started out with guided wage policies and evolved to implicit or even explicit agreements under which labour and employers agreed on wage restraint in return for jobs and attractive welfare arrangements.

In the case of Dutch steel, this type of governance was able to successfully cope with decline. Although Hoogovens right from its beginnings has been partially owned by the Dutch state, it has always been allowed to behave as if it were a fully private company apart from a brief period during the first half of the 1980s when it had to recuperate from its broken-up merger with Hoesch. The government rather anxiously avoided obtaining a majority stake. Still, it was evident to all parties concerned that Hoogovens could always count on governmental support, in terms of subsidies but perhaps especially in terms of strategy and negotiation support as during the break-up of Estel and the cheap-energy dispute with the Ministry of Finance. Although not insignificant, financial support was comparatively small in size.

More generally, Hoogovens benefited from the Polder Model in two respects. First, wage restraint allowed the firm to offer its output abroad at relatively attractive prices. Second, it allowed Hoogovens to axe several thousands of jobs without causing serious labour unrest. In fact, forced dismissals were only necessary during the steel crisis of the early 1990s, but by that time the imminent economic boom did not require special arrangements to manage decline in terms of employment. In terms of output, there hardly was a decline.

When seen from a somewhat broader perspective, however, all that glisters is not gold. First, wage restraints can lead to intermittent wage adaptations (so-called explosions) which firms may find difficult to cope with. What happened to the Dutch economy during the 1960s serves as a textbook case in this respect. Second, as Kleinknecht (1998) has argued, one of the

probable effects of the Dutch emphasis on wage restraint has been that innovation has remained lacklustre as firms were not sufficiently encouraged to find new means of productivity increase. By implication, this must have slowed down the modernisation of the Dutch economy. In the case of Hoogovens, we have indeed observed that the continuous casting innovation was introduced relatively late. Since purchasing power increased only slightly, as we have seen, consumers were also slack in adopting new products which must have had a discouraging effect on the introduction of new products and services too. The presence of many cartels and semi-cartels may have reduced incentives to improve technologies and services even further. When added to the penchants of industrial policies for sun-set industries and firms, the combined retardation effects may have been quite impressive. Perhaps this explains why it took so long before the Dutch economy as a whole got back on a growth trajectory.

Third, the success of laissez-faire intervention heavily relies on the presence of ‘adequate’ management in the firms that receive support. If formal ex ante assessments of management and business policies remain at bay, this must imply that chance becomes a crucial determinant of policy success. Indeed, while several other similarly supported firms subsided (such as RSV shipbuilders, and Fokker Aircraft Manufacturers in the 1990s, both eminent examples of bad management), the Hoogovens support turned out to be a success just because this particular firm happened to make several ‘right’ policy choices, albeit partly forced by circumstances (export focus and break-up of Estel) and partly by accident (continued involvement in the aluminium industry). Thus, it could easily have been otherwise.

The paper therefore suggests that if firms are concentrating on the basics of business, instead of indulging themselves in all sorts of fashionable behaviour such as mergers and downsizing, Polder-type governance may be a good approach. However, many firms choose to adapt their behaviour to what they think will be appreciated by the stock market. Unfortunately, there is perhaps no other economic institution that is so dependent on fads and fashions than the stock market.

References

- Ballance, Robert H., and S. W. Sinclair (1983), Collapse and Survival: Industry Strategies in a Changing World, London: Allen and Unwin.
- CEC, Commission of the European Communities (1993), Panorama of EC Industry 93, Luxembourg: Office for Official Publications of the European Communities.

- Cowling, Keith (1982), Monopoly Capitalism, London: Macmillan.
- Dankers, J.J., and J. Verheul (1993), Hoogovens 1945-1993. From steelworks to two-metal provider: A study in industrial strategy (in Dutch), The Hague: Sdu Publishers.
- De Jong, Henk W. (1990), 'The Netherlands: a European Paradise for Trust-Mongers?' (in Dutch), Economisch Statistische Berichten, **73** (14 March), 244-248.
- De Jong, Henk W., ed. (1993), The Structure of European Industry, 3rd rev. ed., Dordrecht/London/Boston: Kluwer Academic.
- Dercksen, Wim, and Hans Schenk (1982), 'Industrial policy as the captive of international rivalry' (in Dutch), Tijdschrift voor Politieke Economie, **6** (1), 129-150.
- De Voogd, C. (1993), The decline of shipbuilding and other manufacturing industries (in Dutch), Vlissingen: Den Boer/De Rooter.
- De Vries, J. (1968), Hoogovens IJmuiden 1918-1968. Rise and development of a basic industry (in Dutch), IJmuiden: Hoogovens.
- Foreman-Peck, J., and G. Federico, eds. (1999), European Industrial Policy. The Twentieth-Century Experience, Oxford: Oxford University Press.
- Hulsink, Willem, and Hans Schenk (1998), 'Privatisation and deregulation in the Netherlands', in: Parker, ed. (1998), 242-257.
- Kleinknecht, Alfred (1998), 'Is labour market flexibility harmful to innovation?', Cambridge Journal of Economics, **22** (3), 387-396.
- Mboweni, Tito, ed. (1993), Antitrust, Monopolies, and Mergers, Johannesburg: UWC Press.
- Oberender, P., and G. Rüter (1993), 'The steel industry: a crisis of adaptation', in: De Jong, ed. (1993), 65-89.
- OECD (1993), Economic Surveys: Netherlands 1992-1993, Paris: Organisation for Economic Co-Operation and Development.
- Parker, David, ed. (1998), Privatisation in the European Union: Theory and Policy Perspectives, London: Routledge.
- Schenk, Hans, ed. (1987), Industrial and Technology Policy. Analysis and Perspectives (in Dutch), Groningen: Wolters-Noordhoff.
- Schenk, Hans (1993), 'West-European Industrial and Competition Policies: Content and Assessment', in: Mboweni, ed. (1993), 1-37.
- Schenk, Hans (2000), Mergers, Efficient Choice, and International Competitiveness, Cheltenham: Edward Elgar (forthcoming).
- Tellegen, Jan Willem, and Maria Brouwer (1998), Industrial policy (in Dutch), The Hague: Welboom.
- Van Witteloostuijn, Arjen (1999), Anorexia Management. A critical analysis of downsizing (in Dutch), Amsterdam: Arbeiderspers.
- Van Zanden, Jan Luiten (1999), 'The Netherlands: The History of an Empty Box?', in: Foreman-Peck and Federico, eds. (1999), 177-193.
- Visser, Jelle, and A. Hemerijck (1997), 'A Dutch Miracle'. Job Growth, Welfare Reform and Corporatism in the Netherlands, Amsterdam: Amsterdam University Press.
- Wassenberg, Arthur (1983), Dossier RSV. Diversions of Industrial Policy (in Dutch), Leiden: Stenfert Kroese.
- Windmuller, J.P. (1969), Labor Relations in the Netherlands, Ithaca: Cornell University Press.

Wirtschaftsvereinigung Eisen- und Stahlindustrie (1986), Statistisches Jahrbuch der Eisen- und Stahlindustrie 1986, Düsseldorf.

Wirtschaftsvereinigung Eisen- und Stahlindustrie (1987), Flankenschutz durch die Politik bleibt unverzichtbar, Düsseldorf.

Wirtschaftsvereinigung Eisen- und Stahlindustrie (1990), Statistisches Jahrbuch der Eisen- und Stahlindustrie 1990, Düsseldorf.

WRR, Wetenschappelijke Raad voor het Regeringsbeleid [Arie Van Der Zwan et al.] (1980), Present position and future of Dutch industry (in Dutch), The Hague: Staatsuitgeverij.

Table 1 Top-10 and selected largest steel producers, 1998

World rank		Production (mln tonnes)	World rank		Production (mln tonnes)
1	Posco (Rep. of Korea)	25.6	15	Bethlehem Steel (USA)	9.6
2	Nippon Steel (Japan)	25.1	18	Nucor (USA)	8.8
3	Corus (UK)	23.0	19	Cherepovets (Russia)	8.5
4	Arbed (Luxembourg)	20.1	23	Magnitogorsk (Russia)	7.7
5	Usinor (France) ^a	18.9	24	LTV (USA)	7.4
6	LNM (UK)	17.1	25	Cockerill Sambre (Belgium) ^a	6.7
(6)	British Steel (UK)	16.3	(25)	Hoogovens (Netherlands)	6.7
7	Thyssen Krupp (Germany)	14.8	26	Novolipetsk (Russia)	6.6
8	Riva (Italy)	13.3	40	Mariupol (Ukraine)	4.3
9	NKK (Japan)	11.5	44	Huta Katowice (Poland)	4.1
10	USX (USA)	11.0	56	SSAB (Sweden)	3.4

^a Cockerill owned for 75% by Usinor since late-1998

Sources: IISI; Hoogovens; British Steel

Table 2 **Income, wages, and labour costs in the Netherlands, 1984-1996 (percentage growth)**

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
GDP	4.9	4.9	2.8	0.7	3.9	5.9	6.6	5.0	4.2	2.8	5.3	3.9	4.1
Real National Income	2.7	3.7	3.3	-0.2	2.5	5.6	4.4	1.9	1.0	0.9	3.8	2.3	3.1
Standard purchasing power	-1.1	1.5	2.4	1.5	1.1	2.1	2.4	0.2	0.5	0.6	-0.4	0.9	0.2
Standard gross wage	0.3	1.1	1.2	0.8	0.8	1.4	2.9	3.5	4.3	3.1	1.8	1.4	1.6
Real labour costs	0.7	0.2	-0.7	0.7	-0.7	-0.9	1.8	2.8	2.7	1.6	0.9	1.0	0.6

Source: Van Witteloostuijn (1999) from CPB

Table 3 Development of wages in selected OECD countries, 1986-1990

Country	Average annual wage increase	Country	Average annual wage increase
Austria	5.0	Italy	6.1
Belgium	3.0	Japan	3.7
Denmark	6.0	Netherlands	1.7
Finland	8.2	Norway	8.7
France	3.7	Spain	8.2
Germany	4.2	Sweden	8.2
Greece	16.0	UK	8.5
Ireland	5.6	USA	2.6

Source: OECD (1993)

Table 4 **Inputs of materials for US-built cars, 1975-1985 (in pounds)**

	1975	1980	1985	% change 1975-85
Steel	2,420	1,834	1,356	-44
Iron	626	458	216	-65
Plastics	168	184	252	+50
Rubber	160	124	180	+13
Aluminium	86	124	156	+81
Glass	94	80	72	-22
All others	416	276	168	-60
Total car weight	3,970	3,080	2,400	-40

Source: Ballance & Sinclair (1983) from Arthur Andersen & Co; Business Week, 15 June 1981

Table 5 Subsidies to the steel industry in selected EU countries, 1975-1985*

	Average installed capacity (1000 tons)	Average annual subsidy (mln DM)	Average annual subsidy per 1000 tons installed capacity (DM)	Average installed capacity (1000 tons)	Average annual subsidy (mln DM)	Average annual subsidy per 1000 tons installed capacity (DM)	Average annual subsidy per 1000 tons installed capacity (DM)
	1975-1979			1980-1985			1975-1985
Ireland	107	15.2	142,056	267	103.5	387,641	276,012
United Kingdom	28,396	2,770.4	97,563	25,035	2,212.5	88,376	92,552
Italy	34,636	865.4	24,985	38,943	4,719.5	121,193	77,462
France	32,930	412.0	12,511	29,249	3,585.8	122,598	72,559
Belgium	19,300	545.0	28,238	17,138	1,669.5	97,415	65,971
Denmark	1,097	23.0	20,966	1,067	31.8	29,844	25,809
Luxembourg	7,764	6.6	850	6,238	247.5	39,674	22,027
Netherlands	7,787	4.4	565	8,272	178.8	21,620	12,050
Germany	66,812	184.0	2,754	60,743	1,053.3	17,340	10,710
Total	198,811	4,826.4	24,276	189,550	13,802.3	72,816	50,752

* ranked by position in last column

Source: own calculations from Wirtschaftsvereinigung Eisen- und Stahlindustrie (1986; 1987; 1990)

Appendix Table A Basic Indicators of Hoogovens

	Employees Steel Division	Employees Aluminium Division	Steel production (x1000 tons)	Net revenue (x1 mln DGL)	Cash flow (x1 mln DGL)	Net return (x1 mln DGL)
1980	na	na	4953	5743	237	-274
1981	na	na	5178	6451	151	-394
1982	20655	na	4122	5943	365	-106
1983	20080	na	4277	6048	315	-38
1984	19379	na	5532	7259	867	207
1985	19214	na	5302	7465	688	279
1986	17569	3604	5052	6093	628	155
1987	16988	6831	4836	5848	416	-76
1988	16632	7116	5260	7868	963	301
1989	16307	6607	5419	9011	1718	751
1990	15687	6713	5180	8429	867	298
1991	15074	6490	4943	8095	551	-51
1992	14215	5994	5197	7722	476	-595
1993	12092	4535	5812	7219	474	-234
1994	11601	4591	5949	7934	786	354
1995	12714	4556	6149	8100	1173	507
1996	12234	4975	6171	7933	812	326
1997	15912	5161	6674	9996	647	498
1998	15631	5283	6725	10811	1117	415

Note: employee figures excluding non-steel and non-aluminium employees (on average 2250 employees during 1994-1998)

Source: Annual Reports Hoogovens

Appendix Table B Government ownership of Hoogovens *

	1924	1961	1964	1979	1984	1986	1987	1990	1993	1994	1995	1997	1998
Stake (%)	25	27	30	29	29	13.5	14	12.3	15.5	15.3	13	10.2	10
Paid value (m DGL)	7.5	na	na	74.3	92.4	54.0	54.0	55.0	97.5	97.5	97.5	97.5	97.5

Note: when Hoogovens was founded, the City of Amsterdam also held a significant (17%) share of Hoogovens's stock (see text) but this was gradually reduced to approx. 8.5% in 1982 and further to 5% just before it was sold off in 1993.

* only years during which mutations occurred

Source: Dutch Ministry of Finance

Appendix Table C Steel exports as a percentage of steel production*

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
EU	39	40	42	44	43	43	41	43	43	44
Hoogovens	75	77	81	81	83	82	82	80	82	83

* EU: extra-EU exports plus intra-EU imports as a percentage of total ferrous metals production expressed in current prices. Hoogovens: exports as a percentage of total production expressed in tonnes

Source: own calculations from CEC (1993); Dankers and Verheul (1993)

ERASMUS RESEARCH INSTITUTE OF MANAGEMENT

REPORT SERIES *RESEARCH IN MANAGEMENT*

Publications in the Report Series Research* in Management

Impact of the Employee Communication and Perceived External Prestige on Organizational Identification
Ale Smidts, Cees B.M. van Riel & Ad Th.H. Pruyn
ERS-2000-01-MKT

Critical Complexities, from marginal paradigms to learning networks
Slawomir Magala
ERS-2000-02-ORG

Forecasting Market Shares from Models for Sales
Dennis Fok & Philip Hans Franses
ERS-2000-03-MKT

A Greedy Heuristic for a Three-Level Multi-Period Single-Sourcing Problem
H. Edwin Romeijn & Dolores Romero Morales
ERS-2000-04-LIS

Integer Constraints for Train Series Connections
Rob A. Zuidwijk & Leo G. Kroon
ERS-2000-05-LIS

Competitive Exception Learning Using Fuzzy Frequency Distribution
W-M. van den Bergh & J. van den Berg
ERS-2000-06-LIS

Start-Up Capital: Differences Between Male and Female Entrepreneurs, 'Does Gender Matter?'
Ingrid Verheul & Roy Thurik
ERS-2000-07-STR

The Effect of Relational Constructs on Relationship Performance: Does Duration Matter?
Peter C. Verhoef, Philip Hans Franses & Janny C. Hoekstra
ERS-2000-08-MKT

Marketing Cooperatives and Financial Structure: a Transaction Costs Economics Analysis
George W.J. Hendrikse & Cees P. Veerman
ERS-2000-09-ORG

* ERIM Research Programs:
LIS Business Processes, Logistics and Information Systems
ORG Organizing for Performance
MKT Decision Making in Marketing Management
F&A Financial Decision Making and Accounting
STR Strategic Renewal and the Dynamics of Firms, Networks and Industries

A Marketing Co-operative as a System of Attributes: A case study of VTN/The Greenery International BV,
Jos Bijman, George Hendrikse & Cees Veerman
ERS-2000-10-ORG

Evaluating Style Analysis
Frans A. De Roon, Theo E. Nijman & Jenke R. Ter Horst
ERS-2000-11-F&A

From Skews to a Skewed-t: Modelling option-implied returns by a skewed Student-t
Cyriel de Jong & Ronald Huisman
ERS-2000-12-F&A

Marketing Co-operatives: An Incomplete Contracting Perspective
George W.J. Hendrikse & Cees P. Veerman
ERS-2000-13- ORG

Models and Algorithms for Integration of Vehicle and Crew Scheduling
Richard Freling, Dennis Huisman & Albert P.M. Wagelmans
ERS-2000-14-LIS

Ownership Structure in Agrifood Chains: The Marketing Cooperative
George W.J. Hendrikse & W.J.J. (Jos) Bijman
ERS-2000-15-ORG

Managing Knowledge in a Distributed Decision Making Context: The Way Forward for Decision Support Systems
Sajda Qureshi & Vlatka Hlupic
ERS-2000-16-LIS

Organizational Change and Vested Interests
George W.J. Hendrikse
ERS-2000-17-ORG

Strategies, Uncertainty and Performance of Small Business Startups
Marco van Gelderen, Michael Frese & Roy Thurik
ERS-2000-18-STR

Creation of Managerial Capabilities through Managerial Knowledge Integration: a Competence-Based Perspective
Frans A.J. van den Bosch & Raymond van Wijk
ERS-2000-19-STR

Adaptiveness in Virtual Teams: Organisational Challenges and Research Direction
Sajda Qureshi & Doug Vogel
ERS-2000-20-LIS

Currency Hedging for International Stock Portfolios: A General Approach
Frans A. de Roon, Theo E. Nijman & Bas J.M. Werker
ERS-2000-21-F&A

Transition Processes towards Internal Networks: Differential Paces of Change and Effects on Knowledge Flows at Rabobank Group
Raymond A. van Wijk & Frans A.J. van den Bosch
ERS-2000-22-STR

Assessment of Sustainable Development: a Novel Approach using Fuzzy Set Theory
A.M.G. Cornelissen, J. van den Berg, W.J. Koops, M. Grossman & H.M.J. Udo
ERS-2000-23-LIS

Creating the N-Form Corporation as a Managerial Competence
Raymond vanWijk & Frans A.J. van den Bosch
ERS-2000-24-STR

Competition and Market Dynamics on the Russian Deposits Market
Piet-Hein Admiraal & Martin A. Carree
ERS-2000-25-STR

Interest and Hazard Rates of Russian Saving Banks
Martin A. Carree
ERS-2000-26-STR

The Evolution of the Russian Saving Bank Sector during the Transition Era
Martin A. Carree
ERS-2000-27-STR