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## **Path Dependency: A Resistance to Controversies**

### **Abstract**

Classic path dependency thinking focuses on stability. Path dependency defined in terms of a resistance to controversies incorporates both stability *and* change. Sztompka's (1991) structuration-like theory of social becoming is used to argue that four levels of social reality are relevant in detecting where inertia lies and where potential dynamics. It is argued that the ability to trigger, steer, settle or suppress controversies is an organizational capability. The case of the Dutch small-fields policy is used to illustrate the example of two failed, yet significant, attempts to trigger a controversy. Both attempts were backed-up by the logic that abandoning the current policy is both in the long run *and* in the short run economically advantageous compared to maintaining the status quo. In other words, classic path dependency rationale does not suffice to explain the policy inertia. Applying the notion of the controversy, however, does point the finger at where and why lock-ins secure stability. It is particularly the lock-ins at the cognitive level of social becoming that have suppressed potential ability to trigger controversies which are aimed at altering the status quo.

## **Introduction**

The notion of path dependency<sup>1</sup> has gained an increasing interest within organization studies over the last decade (Sydow, Schreyögg & Koch, 2005: 3). David's (1985, 1986) famous example of the QWERTY keyboard marks the beginning of a growing recognition of its relevance within the field of research on organizational change. David pointed at the fact that market mechanisms do not necessarily lead to the most efficient solutions. In addition, as illustrated by the keyboard example, not all processes are easily irreversible. The reason why we use the current computer keyboard is *not* because for efficiency sake today, but lies in past deliberations and decisions. Moreover, despite reasonable arguments for a different, i.e. more efficient, configuration, a change process for that purpose is not likely to be feasible, due to the costs of immediate switching. Path dependency logic thus explains why the maintenance of the status quo can prevail over change. The question now arises how path dependency can explain change itself. Or does it particularly suited to understand immobility?

Recently, attention has been given to unlocking path dependencies.<sup>2</sup> Sydow, Schreyögg & Koch, for instance, have pointed at the reflexivity of actors producing and reproducing paths and their potential for change: "The awareness of path dependence may trigger activities to loosen it." (2005: 20) Indeed, path dependency particularly is an interesting perspective because its focus on stability leaves the question for change open. In other words, path dependence is intriguing because change *is* thinkable. This paper intends to contribute to this promising development in path dependency thinking.

In this paper, it will be argued that path dependency can be understood as a resistance to controversies. Consequently, paths can be *unlocked* by means of controversies. The notion of controversy will be elaborated on in terms of structuration theory, acknowledging the determining forces of social structures on the one hand and the voluntary potential of agents on the other. The case of the small-fields policy will be used to see if it can stand the empirical test. The field of public utilities is believed to be a worthwhile context for that matter, as it is characterized by the solidity involved in physical infrastructure and legislative frameworks on the one hand and the dynamics of the factor markets requiring flexible responsiveness on the other.

Natural gas supply has gained an increasing interest of the public and among policy makers recently. Energy issues in general, and relatively 'clean' resources in particular, have gotten on top of the policy

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<sup>1</sup> David, one of the leading scholars on this topic, prefers the term 'path dependence'

<sup>2</sup> For instance, the 21st EGOS conference in Berlin, in the summer of 2005, was titled "Unlocking organizations", having a sub-theme on "Path Dependence and Creation Processes in the Emergence of Markets, Technologies and Institutions"

agenda's in the discourse of environmental concern in conjunction with an ever growing energy demand world-wide. In addition, the turmoil between Russia and the Ukraine concerning gas delivery and transport has stressed the role that natural gas plays at the level of international relationships and that it might *increasingly* do so in the future. In other words, natural gas supply is subjected to various kinds of dynamics. The Dutch gas policy underwent some radical changes in last decades, towards further liberalization. Nonetheless, some things have remained the same. For instance, the so-called off-take guarantee and the Groningen production cap are still in tact, after more than thirty years. That is rather surprising as there have seen arguments to get rid of these two pillars the Dutch small fields policy.

Mining company NAM (a Shell/Esso joint-venture) has benefited from the small-fields policy since 1974, using it as a legitimacy to explore and exploit small gas fields, in addition to the 'big' Groningen field. This legislative condition was particular useful when during the preparations for the highly controversial mining activities in the Wadden Sea. Surprisingly enough, the environmentalists have not been able to dispute the small-fields policy in order to keep NAM from these wetlands. In other words, it was in NAM's advantage to keep small-fields policy path dependency in tact. It is thus argued here that the ability to control controversies, i.e. ignite, steer, settle or restrain them, is an organizational capability leading to competitive advantage. This case study illustrates the example where two serious and explicit attempts to trigger the small-fields controversy have failed, without too much counter-efforts, of NAM and the Ministry Economic Affairs as major stakeholders. It will appear that in this particular case, the agency-structure tension causes lock-ins at the cognitive level, where public and private values compete. These lock-ins even appear to overrule arguments for short-term efficiency as generally used in 'classic' path dependency explanations.

### **Research methods**

To carry out the empirical research underlying this paper, desk research and qualitative interviews have been used as the main sources to reconstruct the narratives in terms of the proposed theoretical vocabulary. Interviews were held with professionals of the Ministry of Economic Affairs (2), the Ministry of Housing, Spatial Planning and Environment, mining company NAM (4), the Central Planning Bureau, RIKZ marine research institute, the Dutch Labor Party, gas distributor EBN and IMSA consultancy. In addition, a Microsoft Acces database with almost 1.000 events on gas depletion in the Wadden Sea, which is legitimized by the small fields policy, was used to detect possible controversies.

## Plan of the paper

The remainder of this paper is structured as follows. First, the notion of the controversy will be introduced as contribution to path dependency thinking. Then, the Dutch small-fields policy will be dealt with. Subsequently, two attempts to trigger the small-fields policy will be discussed. It will then be argued that we are dealing with a slumbering controversy. It will appear that lock-ins occur at the cognitive level, sustained by ethics and values. The paper will be ended with a conclusion and suggestions for further research.

## Controversy

The tension between change and continuity, which path dependency incorporates, resembles the duality of action and structure of structuration-like theories (e.g. Giddens, 1984). Sztompka (1991), for instance, is not particularly interested in why societies remain *stable*, but rather why they *change*. According to structuration theorists, human and organizational behavior is directed by social structures, which at the same time exist because of the constant confirmation by human agency. Sztompka distinguishes between four so-called ‘levels of social becoming’.<sup>3</sup> The dialectical relationship between action and structure, which drives the process of social becoming, occurs on one or more of these dimensions of social reality. The ideal level deals with cognition. How is reality being perceived? The normative level is about legitimacy. What is regarded as appropriate? The interactional level focuses on the network aspect. Who is connected to whom? The opportunity level is the political approach to social reality. Who has the power over what resources? These four levels of social becoming can analytically be distinguished from each other, but in practice they cannot be seen separately from each other.

Any moment in time, and each situation, is characterized by a particular conjunction of features of the four levels of social becoming. It is the background against which agency can take place. Sztompka labels this as *potential ability*. Various scenarios for behavior are possible, but only one will be effected in practice. This is the *manifested action*. It is what is actually happening. Manifested action either confirms existing social structures or questions them. It is in the latter case when change could occur. The social structure needs to be defied on at least one of the four levels to potentially cause structural changes in society. Non-conformist behavior gives rise to a *controversy*: the current social structure, or parts thereof, are then debated. “As a result, the definition of the situation could have become ambiguous. The existing norms and values might have become subject to debate. Interaction could have taken place in such a way that it circumvents the current interactional network. Opportunities might have been opened up or closed down for certain actors. Or any combination of these four possibilities could have taken place.

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<sup>3</sup> Giddens mentions only three of them, leaving out the interactional dimension.

The moment that such a controversy is resolved, either change has occurred or the old situation has been re-established.” (Sminia, 2003: 1625) Any form of agency subjecting current social structures to a dispute for the first time will be called a *trigger event*. The outcome of the eventual settlement of the controversy determines whether social structure has been subjected to change or not. Regardless of the outcome, the existing social structures in combination with the available agents will supply another situation of potential ability. The story continues as the process of social becoming unfolds.

The controversy, as conceptualized in the above, acknowledges both the persistence of structures through time *and* the possibility to break with them. It thus connects with the intention of this paper to elaborate on the voluntary potential in path dependency logic. If change in social structures is dependent on controversies, and more particularly on the settlement of a controversy, then path dependency could also be unlocked by means of these same controversies. As a consequence, path dependency can be explained as a resistance to controversies. Let us apply this definition to the QWERTY example. Path dependency here largely lies at the opportunity level and the interactional level. To begin with the latter, there are just too many people using the keyboard configuration to switch to an alternate one instantly. At the opportunity level, which is not surprisingly connected to the interactional level in this case, there is also a financial lock-in. The amount of keyboards and production lines spread all over the world encompass such an immeasurable body of capital that modification requires a rather enormous financial investment to change that nobody would, and could, invest in that. Theoretically, it is doable. All users must then be reached and trained (interactional level) and the funds for that should be available (opportunity level). Lock-ins at the other two levels of social becoming are also thinkable, but these are not likely to involve necessary conditions for inertia in this respect.

In this paper, the notion of the controversy will be applied to the Dutch-small fields policy. The relevant question is why it has remained in tact for more than three decades, despite good arguments against it. These arguments, as we will see, largely involve the opportunity level. From a financial-economic perspective, there would be sufficient conditions for an immediate unlocking of the small-fields path. Apparently, the lock-in lies elsewhere. Let us now look at the case more closely and then apply the proposed notion of the controversy to explain the inertia of this particular policy.

### **The small-fields policy**

The discovery in Groningen in 1959 of one of the largest natural gas fields in the world marks the beginning of the Dutch gas-era. Since then, until 2004, gas revenues have earned the State an estimated 159 billion euros (VPRO/NPS, 2006). It has been one of the foundations on which the Dutch welfare

State has been built. “The Netherlands equals Belgium plus the gas revenues.” This is what prominent liberal party member Henk Vonhoff answered when being asked what his estimates were of the economical significance of the State revenues which had derived from the famous Groningen field (VPRO/NPS, 2006). Until large-scale exploitation of that field from the early sixties onwards, the Dutch economy had been mostly relying on coal and oil as the main energy sources. Gas was being used prior to the discovery of the Groningen field on a low scale, but nobody would have thought at that time that gas would soon dominate national energy production and would even be exported. The effects on the economy and society as a whole would be even more impressive.

The first oil crisis forced government to seriously reconsider its energy policy. The White Paper, which was presented by Minister of Finance Lubbers in 1974, stated that the depletion of the Groningen field had to be brought under control (MEZ 1974: 88, 118-120). One of the means for long-term effective and efficient gas production, as was suggested by the White Paper, was a ‘small fields policy’. The discovery and exploitation of additional fields had to be encouraged to benefit from the reservoir in Groningen as the cornerstone of Dutch energy production as long as possible. The Groningen field is unique for it is a relatively large and condensed reservoir. It is therefore a matter of opening the tap for a steady and firm flow of high quality gas. Despite the low marginal costs involved and its size, the Groningen bubble is not exploited with full throttle, but only in conjunction with the smaller fields.

Gas from the smaller fields in the Netherlands is unsuitable for the current devices in the domestic households and industries. However, mixing it with the Groningen substance does not require any technical adjustments. The small-fields policy aims to benefit from the various reserves spread all over the country, in conjunction with the main stock. In addition, Groningen as a swing supplier contributes to disturbance prevention of natural gas delivery. Particularly climatic conditions can cause a large variation in energy demand. Severe winters are well known for that. Its outstanding qualifications have turned the Groningen gas reservoir into an extremely valuable national resource. If it was not for the gas tax revenues, the famous delta works preventing the Western part of the country from the sea, for example, would have not been possible.

### **First trigger attempt by the secretary-general of Economic Affairs**

Despite its curriculum so far, the small fields policy has not remained without any scrutiny. However, critics of the policy have never really gotten through to the policy makers with their arguments. Secretary-general of Economic Affairs, Sweder van Wijnbergen, has tried to make his Ministry aware of the drawbacks of the small fields policy in the late 1990's, but without success. According to Van

Wijnbergen<sup>4</sup>, the policy projects production with low marginal cost, as is the case with the ready-to-flow Groningen gas, into the future, while the higher marginal costs involved in small fields are brought forward. Adhering to basic economic principles, he did not see the logic of exploiting the small-fields gas prior to the Groningen gas, which had lower marginal costs. "All that needs to be done is to open the tap and the gas will flow abundantly. The small-fields policy does the exact opposite of what should be done: cheaper things first in the case of equal returns. Against that is the fact that earlier exhaustion implies loss of the flexibility benefits of the Groningen field 30 years from now if the exhaustion date is brought forward a few years; this loss occurs decades in the future, however, while the efficiency costs of the small fields policy are incurred today." The report he had in mind on evaluating that trade off would never be finished though. At least not by Economic Affairs. The subordinates at the Ministry could not relate to such an approach. In their view the small-field policy had a rather successful history and served a long term goal of supply security. In the long run, as it is believed, exploring and exploiting the relatively expensive smaller fields in conjunction with the Groningen swing supplier will turn out to be cheaper than any other succession of short-term scenarios. In addition, the policy being part of a larger legal structure, has attracted a lot of small-firm activities exploiting the little bubbles. Moreover, the State offers to participate in the case of favorable expectancies, joint ventures emerge, random depreciation is allowed and the Gasunie, owning the infrastructural network, guarantees purchase. Nonetheless, not much later, the civil servants had to defend the inertial small-fields policy to the scrutiny of the OESO by assuring that the gas revenues would not be used for structural expenses.

### **The second trigger attempt by the Central Planning Bureau**

In 2006 the Central Planning Bureau published its report on the Dutch gas depletion policy. The conclusions were to a large extent in line with those of Van Wijnbergen. The off-take guarantee for small fields gas "currently may outweigh the costs, but a further development of the gas market would reverse this picture." (Mulder & Zwart, 2006: 3) The report warns for the costs as a result of the reduced incentives for operators to respond optimally to short-term changes as is common in non-regulated markets. Regarding the Groningen cap, the report found that "this measure is inefficient when the cap is binding, i.e. restricting the production from the Groningen field." (Mulder & Zwart, 2006: 3) In accordance with Van Wijnbergen, the report emphasizes that the costs of capping Groningen follow from shifting returns to the future. The report was discussed in Parliament but did not lead to any change of plans.

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<sup>4</sup> Personal communication

### **Slumbering controversy**

It has to be concluded that the small fields policy has remarkably stood tall. Besides the two occasional nearly-eruptions of the slumbering controversy, it is still latently there. The discussion apparently pops up every now and then at the ministerial echelons. In June 2004, for instance, it led to a ceiling for the Groningen field of an average production maximum for the next decade. But more importantly, despite the arguments against it, it has remained a dormant controversy. Not even the environmentalists have taken up the challenge to try and oppose to it. The small-fields policy is the legitimacy for gas depletion in the Dutch Wadden Sea, which is a highly controversial exercise. These wetlands are not only hiding several small fields, it is also a nature reserve of international importance, which is – according to many – threatened by gas depletion. Nonetheless, the environmentalists have not touched the small fields policy at all. It apparently had been trapped in a mode of path dependency. The longer it lasts, the harder it gets to change things. Technical and legal aspects are only part of the explanation. It has to be concluded that the sufficient lock-ins lie at the cognitive level. Taking into consideration what has been said in the above, we now have reason to further investigate this particular level of social becoming.

### **Lock-ins at the cognitive level**

The small-fields policy is still going strong. And not because of the fact that it is too expensive to unlock it. On the contrary, we have just seen that, from a financial-economic point of view, rapid depletion is rather opportune, regardless of what is left in any of the remaining small-fields. In other words, it is not the immediate costs of switching that prevents the path of unlocking. The opportunity level does not supply sufficient conditions in this case. The inertia lies elsewhere. The attempts to trigger a controversy in order to subdue the small-fields policy to a dispute have never really gotten through. The reason for that is that the arguments, which were used, did not affect the cognitive level that surrounds the policy. The Ministry of Economic Affairs does not reject the argument as put forward by its former secretary general and the Central Planning Bureau. The short-term financial benefits of ending the policy is just not a sufficient condition to change the minds. And that is what it is all about: ‘the minds’. Something is stuck at the ideal level.

At the Ministry of Economic Affairs, the small-fields policy appeals to a sense of responsibility that goes beyond enhancing economic trade. To them, the Groningen reservoir is a national strategic resource. This is not surprising, as this was exactly the reason why the small-fields policy was implemented in 1974. The Lubbers administration realized that the immense Groningen reservoir was something to treasure, now that the nuclear era did not seem to be the remedy for future energy problems. The small-fields policy itself was in fact a result of settlement of a controversy. For quite a while, the

Netherlands had known that it was sitting on a giant gas bubble, but it did not immediately *realize* what could *mean*. It did not only mean revenues, deriving from tax revenues and the international contracts that had been made, it also implied a certain independence regarding energy supply. This realization is, till this date, part of the culture at Economic Affairs.

### **Other lock-ins**

The lock-ins for the small fields policy are centered around the cognitive level, but that does not mean that the relevance of the remaining levels of social becoming is absent. At the interactional level, there have always been close bonds between Economic Affairs and mining company NAM, which operates most gas reserves in the countr. NAM has recently started depletion of small- fields gas from under the Wadden Sea. It is expected to supply gas for the four largest Dutch cities for one decade. NAM and Economic Affairs have invested hundreds of millions euros in the Wadden gas and both are determined to take it out, despite the ongoing protests of environmentalists. We hereby touch upon the opportunity level as well. Although not comparable to the value of the Groningen gas, the small-fields *do* harbor valuable resources. Due to the fact that the quality of gas varies per field and can only be processed through the current domestic devices in conjunction with the Groningen gas, the termination of the small-fields policy would leave the small fields unused forever, according to Economic Affairs.<sup>5</sup> In addition, at the normative level there are the expectations, investments and contracts based on thirty years of a particular policy. Again, the levels cannot be seen separately, obviously.

### **Ethics and values**

The dominance of the cognitive level in explaining the inertia of the small-fields policy draws the attention to ethics and moral values. The sense of responsibility of Economic Affairs to treasure the national gas reserve as long and good as possible resembles Weber's 'Verantwortungsethik' (1949). However, with this ethic of responsibility, or deontology, Weber prescribes an ethical alignment between action and outcomes. It remains to be seen to what extent the causality at the cognitive level, portrayed by the small-fields advocates, indeed matches this criterion. In addition, responsibilities in terms of agency and effects are more a normative issue, rather than taking place at the ideal level. It is perhaps more an example of Weber's 'Gesinnungsethik', which is the counterpart of his responsibility ethic. In line with the Kantian ethics, this ethic of conviction connects intention with action. Not surprisingly, convictions clearly belong to the cognitive level. Government encompasses certain 'convictions' that might not always stand the test of the empirical proof of the pudding. Nor are they

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<sup>5</sup> The question arises, however, if a future substitute for the Groningen gas, for instance imported gas, could not also be used in conjunction with small-fields gas.

always subdued to financial cost-benefit analyses. It is public values that are at stake. Jacobs (1992) has opposed public values to private values. She speaks of two mutually excluding sets of values, respectively the 'guardian moral syndrome' versus the 'commercial moral syndrome'. Van der Wal, De Graaf & Lasthuizen (forthcoming), however, have indicated that some values are common to both the public and the private sphere. Nonetheless, some values remain unique to the public service. Parsimony and stability are such values that apply to the sentiments surrounding the small-fields policy (e.g De Bruijn & Dicke, 2006; Beck, Jørgensen & Bozeman, 2007).

### **Conclusion, discussion and suggestions for further research**

We have seen that classic path dependency logic does not suffice in explaining why the Dutch small-fields policy has remained in tact for more than three decades. Path dependency understood as a resistance to controversies, however, *does* point the finger at specific lock-ins. In this particular case, it appeared that the cognitive level and its lock-ins dominated the other levels of social becoming. The opportunity level, for instance, harbored the economic arguments, which appeal to classic path dependency logic, but did not prevail. The proposed notion enriches path dependency thinking with the realization that a.) stability can also be explained from the perspective of potential change and b.) that several dimensions of social reality are relevant to distinguish in explaining both continuity *and* change.

The case of the Dutch small-fields policy has illustrated the example of failed attempts to trigger a controversy in order to change the status quo. For further research, it would be worth to investigate cases where triggers have indeed been effectuated. Funnily enough, the proposed notion is based on the idea that classic path dependency thinking explains continuity rather than change, yet the used example is one of inertia. However, it is particularly the dialectical foundations of the notion that leaves room for understanding stability as an absence of change. Another element that future research could incorporate is the active strategizing of agents to suppress potential controversies. In our study, we have seen that NAM, but also the Ministry of Economic Affairs, did not really have to put into practice strategies to prevent controversies from coming up. Lock-ins were secured at the cognitive level already. The proposed notion explicitly leaves room for interpreting the triggering, steering, settling *and* suppressing as an organizational capability. Future research could also pay attention the relevance and dominance of one level of social becoming, compared to the other. In our study, we have seen that the cognitive level overruled the other levels, but what are the conditions for that?

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