

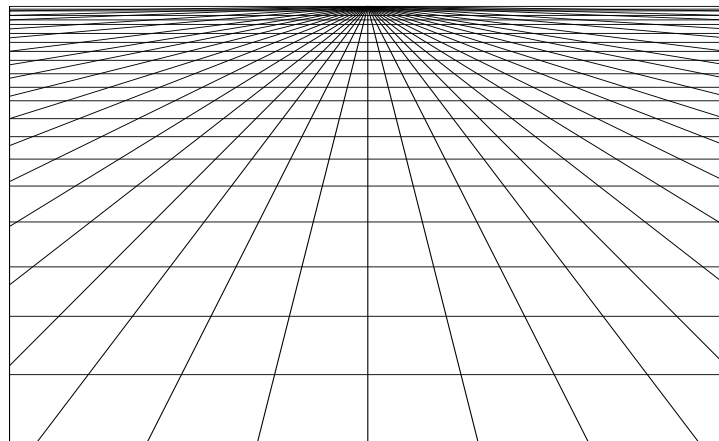


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The ESST Master Thesis

The Effect of The Bill and Melinda Gates Foundation on the Global Health  
Field – An Innovating Foundation in a Fragmented World

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Any errors or shortcomings contained in this paper are entirely my own responsibility.

Frode Hovland Søreide

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## **Abstract**

*The purpose of this case study was to take a broad look at the effects of the Bill and Melinda Gates Foundation Global Health Program's science, technology and innovation funding and policies on the ever changing scene of global health. Using sectoral systems of innovation and innovation in non-profit organizations as frameworks the foundations ability to absorb information and put it to use for the purpose of innovation was investigated. Due to its integral role in any situation where tasks are delegated, principal agent theory was used to investigate how they align their goals with those of their grantees. Finally possible implications for Science, Technology and Innovation strategies (intentionally or unintentionally) caused by the vast amount of money that the Gates Foundation has contributed to the field of health research, product development and also procurement and implementation were discussed. I argue that the Gates Foundation has had a massive impact on funding of innovation in the global health field, and the results of this funding are starting to emerge. A noticeable finding is the foundation's ability to bring diverse actors together and marshal support for its initiatives. Furthermore, while the foundation appears to have been very successful in its dealing with the principal agent problem, they struggle to efficiently absorb information from their surroundings in terms of markets and partners, which could impact negatively on their ability to innovate.*





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## 1. Introduction

The overall objective of the thesis is to give an answer to the main research question: How does The Bill and Melinda Gates Foundation's Global Health Program affect innovation and innovation policy in the global health field? This is a difficult question to answer and no doubt one that deserves more detailed treatment than can be provided in this thesis. The Bill and Melinda Gates Foundation (from now on referred to as the Gates Foundation or the foundation) is a complex organization that operates in a still more complex field. As waypoints on the route to tackling the question posed above, five more questions are posed in the literature chapter below. These concern different aspects of the Gates Foundation, specifically: how does the foundation fund science, technology and innovation; how does it acquire information to do so in an effective manner; how does it set its priorities; how do these affect policies in global health; and how does the foundation deal with the principal agent problem? Having dealt with these issues, it should then be possible to answer the principal question of how the foundation affects innovation and innovation policy in the global health field

Although there are many aspects that could have been chosen, this sample of questions should serve to give a broad overlook at the Gates Foundations operations. The advantage of this strategy is that it gives a sort of birds eye perspective of the foundation, that would be lost if I had chosen to look at one restricted aspect of its activities.

The Gates Foundation's Global Health Program has to date, with a few exceptions, received little attention in scholarly articles. Its central role in global health is often mentioned, but rarely discussed at length. Nor are the effects of the massive funding it contributes investigated, especially in terms of its effects on innovation and policy. For this reason it makes sense to start with a broad look at the foundation that can lead to further research into more specific areas at later stages.

In answering these questions I have largely relied on a sectoral system of innovation. I have also drawn on the theory of innovation in non-governmental organizations, theory on absorptive capacity and principal agent theory. Together these theories should give a starting point from which to understand the

complexities of the foundation. The main source of information used in the analysis is interviews conducted with people, most of whom work in organizations that receive funding from the Gates Foundation, and others who either work in the same field or have themselves studied the Gates Foundation.

The thesis consists of five chapters excluding this short introduction. The second chapter is thus the literature review that describes the theories that are applied for the purpose of studying the foundations in terms of its effects on science technology and policy. The third chapter is a description and short history of the Gates Foundation and its context. The context gives a description of the global health field and the changes that are taking place in it, and is important for the understanding of the Gates Foundation and the role it plays in global health. The fourth chapter is devoted to the method applied for this case study of the Gates Foundation. The fifth part is a detailed analysis of the findings from the interviews; these are compared and contrasted with material from journal and newspaper articles, web pages etc. The sixth and final section contains a set of concluding remarks that seeks to summarize the findings of the five initial questions, thereby answering the main research question of the thesis. The appendix contains a list of abbreviations and acronyms, and the interview guides.

## **2. Literature Review**

The purpose of the literature review is to establish a practical framework to understand the impact of a large foundation that is working in the global health field. There are multiple ways that this can be achieved. The topics covered below represent a few select perspectives that should be appropriate to start such an undertaking, but is by no means the only approach. Throughout the literature review five questions will be posed to aid the process of analyzing the findings and contribute to answering the main research question.

A short introduction of the concept of innovation is followed by five sections that have been chosen to assist the broad analysis of the foundation's impact in innovation and policy. The first section dealing with innovation in nonprofit organizations provides a perspective suitable for understanding how the funding for STI is approached internally, while the following section will place the foundation in a systemic context and also looks at absorptive capacity. The section on science technology and innovation policy will then provide a framework to enhance the understanding of the implication of the Gates Foundations funding strategies. The final section looks at some of the problems associated with principal agent theory, which have implications for all relationships where tasks are delegated.

## **2.1 Innovation**

Innovative behavior follows from human's intrinsic motivation to improve tried ways of doing things. Innovation is often seen as the process of turning an invention into practice, whether this is in way of a new product or new practices. For this to happen a prospective innovator (a firm, individual or other agent) will need to "(...) combine several types of knowledge, capabilities, skills and resources"(Fagerberg, 2005, p. 5). Furthermore, innovations should not be treated as a homogenous thing, but rather more dynamic and lengthy process(Fagerberg, 2005). An innovation can be defined or identified by the *newness* of the idea, practice or object where it is introduced, rather than whether or not it is a whole new concept to the world(Slappendel, 1996)

Innovation in this paper is defined in its broadest terms, thus; any new products, processes and ideas applied to global health spending, research funding and innovation or distribution of products. Such a definition of innovation is useful in terms of global health in particular, because significant innovations can come in the form of new institutional setups, just as well as the invention of new drugs or other interventions.

## **2.2 Innovation in Non-Profit Organization**

Foundations belong under the umbrella of non-profit organizations (together with clubs and cooperative associations, among others). Historically, the focus of innovation studies has primarily been on private-for profit organizations (Zimmermann, 1999). In this paper, just as in Zimmermann, the assumption is that non-profit organizations (NPOs) also play a significant role in the economy, specifically in innovating new products for low revenue markets in the developing world, as with for example drug discoveries and distribution of new products.

Zimmermann claims that although there has been little research done on the effects of innovation outside the private sector, the other large sectors, such as that of NPOs and the public sector also play an important role in promoting the well being of the individual, which is ‘the final objective of all economic activity’, and as such deserves to be carefully analyzed. Zimmermann’s article considers the general role of innovation in NPOs in the German case, but its findings are relevant to innovation in foundations in the global health field, nonetheless. As the article is concerned with the role of innovation in high income countries it is assumed that there are no constraints on the availability of capital or labor, making the combination of new products and processes, hence innovation, the factor that allows the economy to move ahead of competing economies (Zimmermann, 1999). While the assumptions about limitless capital and labor is unrealistic in the global health field, the conclusion that innovation can be a significant driving force is certainly of importance, perhaps particularly because funding is still scarce. Zimmermann also assumes that innovation can attract ‘the necessary factors of production’, in his case, from inside or outside the country in question. In global health the same principle could be true, for example if innovation can create new markets for therapeutics. The significance of foundations in the global health field (as an example of NPOs) is underscored by multiple articles (Kickbusch, 2000; McCoy, Chand, & Sridhar, 2009; McCoy, Kembhavi, Patel, & Luintel, 2009; NKCHS, 2010; Walt & Buse, 2000).

In the same article Zimmermann discusses how NPOs could through innovation and growth bridge the gap left by a public sector rendered increasingly impotent by the effects of globalization which

have limited the political freedom of action of countries. The extent to which this is true in the global health field is hard to assess, as, paradoxically, the globalization can be seen as one of the reasons for the growing involvement of foundations in global health

It has been assumed that the NPO sector has been less efficient as it lacks incentive in form of profits; however, Zimmermann states that many modern NPOs are “characterized by a strong motivation, freedom of ideas and competition among ideas”. In terms of environmental factors, borrowing from Zimmermann, I assume that ‘lack of finances, the degree of competition, the possibility of protecting from the risk of innovation etc’ is of importance for innovation in a foundation. As foundations lack the profit making incentive Zimmermann mentions personal and social acknowledgement as such an incentive. Since foundations are otherwise lacking in extrinsic incentive it needs to be substituted by an intrinsic incentive. The extent to which this is relevant to the unit of analysis in this thesis will be discussed later.

According to Zimmermann NPOs are engaged in different fields of activities. The fields of activities can be defined in terms of output which is to a degree determined by the mission of the organization. Outputs can vary from production of public goods, private goods to advocacy and others. The types of output that a foundation wants to see should therefore strongly influence what it chooses to fund.

In this context it is natural to ask: *How does the Gates Foundation fund science, technology and innovation?*

Zimmermann (1999) states that it is simple to discern who the innovating person is, both in private and non-profit organization; that is, in Schumpeterian terms the entrepreneur. However, the foundation is complex with many levels of decision making. It should be noted that the individualist perspective of innovation has been criticized. While entrepreneurs are important this perspective might be simplistic as it assumes that innovative ideas originate with, and are developed by one individual. Other studies have

emphasized the importance of leaders and elite groups for innovation in organizations (Slappendel, 1996). It seems likely that innovations in a foundation could stem from multiple sources before they are integrated as new ideas into the organization. Cooperation and communication with recipient organizations, recipient countries, supra-national institutions, other NGOs, or ideas from people living with diseases could all lead to innovation, as well as intra-organizational communication. Due to the complexity of the global health arena and the foundations working within it, it seems that a system perspective that focuses “(...) on the workings of the linkages of the system” (Fagerberg, 2005 p13) is more pertinent for the purpose of this thesis than the individualistic approach.

### **2.3 Sectoral system of innovation**

The systemic view of innovation is a derivative of evolutionary economics with its emphasis on dynamics, processes and transformation. The particular model of systems of innovation, takes a sectoral, rather than a geographical perspective. This is an advantage when studying organizations that operates on a global level, with a multitude of partners from a variety of fields.

The systemic view of innovation recognizes the process of innovation as a collective achievement, not only as the accomplishment of an individual entrepreneur, and emphasizes the importance of collaboration of both public and private sectors. Hence, innovation is not solely made possible by the organization from which it originates but is dependent on an infrastructure that can facilitate or constrain the process of innovation (Van de Ven, 1999).

The main components of this infrastructure in a sectoral system of innovation are, according to Malerba, (2002) “knowledge and learning processes; basic technologies, inputs and demand with key links and dynamic complementarities; types and structure of interactions among heterogeneous firms and non-firms organizations; institutions and the processes of selection and generation of variety” Importantly this infrastructure is characterized by a large degree of dynamism and varying levels of aggregation and communication between organizations and individuals that constitutes that sector, and can change over

time. Actors in the sector interact and relate in various ways: they both compete and co-operate, and communication between them can be inhibited or facilitated by rules and regulations. The actors are heterogeneous in nature, have differing objectives and behavior, and exhibit differing learning processes. The interactions of actors in a sectoral system will have reciprocal effect on the agents, in that decisions made by one actor will leave a mark on the sector and thereby affect others. This process, termed co-evolution, drives change in the sector, and is dependent on the key components mentioned above.

In addition to rules and regulations, a sector's innovative behavior and interaction will also be limited by what basic technologies are available, and demand for the products. The firms are, according to Malerba(2002), the key actors in a sectoral system and can take the roles of innovators and producers, but also the implementers and users of new products. Importantly the firms are also important for the generation and accumulation of new knowledge. The demand side can easily be misconceived as constituting merely of individuals buying products for themselves; but it can also be represented by firms, lending heterogeneity to the demand-side agents in a sector. Sharp changes in demand can result in changes in the technology and has implications for the learning processes of actors involved in the sector. These changes in demand, or demand discontinuities, have important implications for the structure of a sector. These in turn can cause firms and organizations to flourish or fall, and hence drive the evolution of the sector(Malerba, 2002).According to Malerba, "These results emphasize the need to examine the possible tradeoffs and complementarities between knowledge about technologies and knowledge about demand"

The next question posed is thus: *How does the gates foundation use demand to direct their funding of science technology and innovation?*

As the acquisition of knowledge would be of critical importance for any foundation working in the field of global health this next section will deal with absorptive capacity and the relationship between learning and innovation. According to Cohen and Levinthal(1990), who deals with this question predominantly from the perspective of firms, the acquisition integration and use of information from the



external environment is critical to the firm's innovative capabilities. In this thesis this principle is extended to include foundations. This ability to acquire information and learn, labeled absorptive capacity is, according to Cohen and Levinthal, to a great degree dependent on prior knowledge that is already present in the organization. This, it is argued, is because to understand the full potential of newly acquired knowledge a thorough understanding of its context is needed. This learning then becomes a matter of being able to learn, or the process of learning to learn. Hence, learning is an accumulative process.

In an organization, the ability to learn and acquire information is dependent on the organizational subsections' ability to learn and, in logical conclusion, the ability of individuals within the organization to learn. That is not to say that the absorptive capacity of an organization is merely the sum of the abilities of individuals. Structural and organizational arrangements can facilitate or impede absorptive capacity. Thus, the organization's ability to learn depends on gatekeepers who stand either at organization's interface with the environment, or at the interface between its subunits of the organization. The gatekeepers can capture information, and subsequently integrate and disseminate the newly acquired knowledge within the organization. The ease with which this dissemination can happen depends, yet again, on the prior knowledge of the recipients. Given that the prior knowledge held by these individuals is not sufficient for the integration of new knowledge, such as may be the case in highly technical issues, the gatekeepers may have to act as translators to make the information useful for others. This is what Cohen and Levinthal call boundary spanning roles. While this may be time consuming, it is according to Cohen and Levinthal important that there is a degree of diversity in the knowledge held by the individuals in an organization, but with enough overlap to make communication and use of new knowledge possible. It follows that an organization's absorptive capacity is to an extent path dependent, whereby the diversity of prior knowledge will to some degree determine what new knowledge the organization is capable of absorbing.

The importance of absorptive capacity is underscored by the observation that on an organizational level innovation is mostly a product of borrowing, not invention of itself. However, it does appear that R&D activities can themselves help to increase the organization's absorptive capacity.

The third question for the purpose of the analysis is therefore: *How does the Gates Foundation communicate with, and acquire information from its partners and grantees?*

## **2.4 Foundations and Policy**

This section has so far dealt with what influences innovation in foundations. This next section looks at how funding policy for science technology and innovation might affect the field it aims to influence.

From Benkt-Åke Lundvall and Susana Borrás we can draw out the general statement that Science, Technology and Innovation Policy are essentially about what governments “(...) could do to promote the production, diffusion, and use of scientific and technological knowledge in order to realize national objectives”(Lundvall & Borrás, 2005 p599). By substituting government with foundations, and national objectives with global objectives, the same framework can be used to investigate the impact of a large foundation on the global health field. The assumption is that this is justified when looking at a foundation of considerable size and influence. This means that when the financial and political influence of a given foundation is taken into account, it can have a significant impact on the outcomes we can expect to see in terms of innovation in the global health arena.

I will for the sake of simplicity, like Lundvall and Borrás, treat Science policy, technology policy and innovation Policy as three idealized examples, rather than a singular concept. Due to the complexity of the foundations operations many of the issues that they are involved in will inevitably span all three of these issues and they will not always be clearly distinguishable. The main research question of this thesis only includes the words ‘Innovation Policy’ as it according to Lundvall and Borrás’ framework encompasses both science and technology policy.

## 2.5 Science policy

It can be safely assumed that a foundation working to advance scientific understanding in the global health arena must have as its key objective the strengthening of the knowledge base of health sciences. As with governments, then, the main issue is to “[allocate] sufficient resources to science, to distribute them wisely between activities, to make sure that resources are used efficiently and contribute to social welfare”(Lundvall & Borrás, 2005 p605). An important and ongoing debate in Science Policy is to what extent political meddling is positive for the outcome of research. One danger is that too much political steering of scientists and the scientific community could stifle creativity and limit the diversity of views held by scientist in regards to new ideas. University scholars have, according to Lundvall and Borrás, been champions of free, autonomous research: they argue that the innovative ideas that drive radical change can only ever arise from basic research that is allowed to develop independently of political and strategic goals.

Another danger is that democracy is undermined in an environment where science is not allowed ‘free reins’, as independent scientific discovery is essential to secure a transparent and open society(Lundvall & Borrás, 2005 p 606).

Careful evaluation is important to assess where money can be spent most efficiently. It can also create incentives for scientists. As Lundvall and Borrás point out, scientists undergo several types of evaluations, from exams to peer reviews. However, policy makers might not regard these internal evaluations are sufficient to ensure effective use of research funding, and like in the UK impose further reporting systems. While these measures might be effective in the short term it has led to dissatisfaction among scientist(Lundvall & Borrás, 2005 p607).

Another interesting question raised by Lundvall and Borrás is whether good research is always useful. The evidence they refer to is contradictory and some researchers have even found evidence that there is a negative correlation between high profile publishing and high impact, at least within biotec (Lundvall & Borrás, 2005 p.608).

## **2.6 Technology Policy**

The approach to technology policy differs between low income countries and high income countries. While High income countries will be concerned with developing techniques to bring the latest innovation to market, low- income countries will be more concerned with catching up, by entering into new promising fields of industry, or absorbing those new innovations that are made available. (Lundvall & Borrás, 2005 p608).

The question is raised whether it is true that we should always give first priority to science- and technologically based sectors, over other sectors, and if so at what time is it appropriate to support such sectors? For the instance, is it only acceptable to support for pre-competitive stages or whether it is also acceptable to help bring a product to market

Lundvall and Borrás state that for governments “Technology policy may be pursued with competence where government operates as a major user but when it comes to developing new technologies for the market it must be more modest”(Lundvall & Borrás, 2005 p.609). The concern is that over-zealous governments make decisions for the trajectory of technology that are out of tune with the market or the population. These issues should arguably also be a concern for major investors into drug development outside government, such as foundations.

## **2.7 Innovation Policy**

As markets seem to continuously fail to provide efficient drugs and therapies for neglected diseases that are mainly affecting the poor there appears to be a strong argument for innovation policies that can strengthen the outcome of technological opportunities. From the systemic perspective on innovation policy “(...)most major policy fields need to be considered in the light of how they contribute to innovation”(Lundvall & Borrás, 2005 p.611). While acknowledging the importance of competition the

systemic view of innovation recognizes the importance of communication between producers, consumers and even competitors, and focuses on the long-term outcome of innovation policies, emphasizing the importance of organizations and institutions. Foundations may be able to both influence and change institutional structures, though in a different manner to governments. Regulation of IPRs and provision of venture capitals are among the tools that can be used to influence innovation policy. Importantly, with respect to foundations, innovation policy has mainly focused upon ways of promoting economic growth and competitiveness, some attention has also been paid to the promotion of “(...)’social cohesion’ and equality”(Lundvall & Borrás, 2005 p. 612).

The fourth question is thus: *What characterizes the Gates Foundation’s STI policies and how do they affect the global health field?*

## **2.8 Principal- Agent Theory**

This section on principal agent theory primarily deals with how to incentivize scientists and efficiently implement policies. This is, according to Braun (2003) a double-edged problem of “how to make sure that good and useful science is produced , as well as how to assure that the investments in science do not go with unproductive pressures from the government to produce applicable knowledge”, a description which clearly has relevance to the discussion above.

In this context, the principal agent problem arises when the funder (i.e. the principal) wants to pay for outcomes that may be a lower priority for the recipient (i.e. the agent). In other words, if the priorities of the two are misaligned, and the principal cannot perfectly control the behavior of the agent, how to ensure the latter acts at the behest of the former? At root, the problem is one of informational asymmetry arising from the degree of removal between policymakers and scientists. The functional differentiation of modern society, has been advantageous for knowledge creation, but has left politicians and policymakers with the responsibility of *delegating* the task of technological research to scientists. Policymakers, as

social utility maximisers then have a duty to make sure that scientists carry out work that is in the best interest of society; but they are impeded by their limited ability to monitor the scientists' output, a constraint that the scientist can exploit to pursue their own potentially divergent ends. (Braun, 2003). This asymmetry leads to problems such as that of adverse selection and moral hazard. Moral hazard will be dealt with below.

Up until the 1960's, science funding had, according to Braun (2003) been characterized by blind delegation. This rested on the idea that autonomous research would yield the best science; in effect, that in the absence of supervision, scientists would work in the best interests of society. Since then it has been a salient trait of funding to be linked to some overarching political objective by utilizing price signals. The purpose of these price signals is to incentivize scientists to align their goals with those of the funders. However, as Braun(2003) notes, the scientists “ have a genuine interest in pursuing their scientific career, which is not flexibly linked to the exigencies in political funding”. If the objectives of the funder are unequal or contradictory to those of the scientist this means that the scientist is incentivized to reduce their efforts or hide information from the funder. This infers a cost on the part of the funder because it means that monitoring will be of increased importance, to ensure the compliance of the agent(Van der Meulen, 1998).

Indeed, as pointed out by Braun(1998) it is questionable whether it is at all possible for a layperson to guide science with external motivations and interests ,particularly if this is taken to mean to “influence the hierarchical intervention by political agencies determining and commanding scientific development.”

While scientists undoubtedly respond to economic incentives, and capital is undeniably important for the functioning of the scientific system, it is *social return* that drives scientific research. This means that the types of science that yields the highest social capital will be of the highest interest to the scientists.

To overcome the principal agent problem inherent in the relationship between scientists and their political sponsors, Braun(2003) offers the solution of institutional embeddedness, achieved through a contractual framework. Specifically, contracts are drawn up in cooperation with research institutions and not scientists directly. The contracts will then serve to steer the scientists indirectly, as they are part of these institutions and their institutional embeddedness has been changed. Because the incentive mode of delegation is embedded in the research institutions this should mitigate the problem of moral hazard, as well as adverse selection and foster social responsibility.

The ideal contract would be drawn up in such a way that it is in the interest of both parties to adhere to precise specifications of the contract. Such an ideal contract would “specify precisely what each party is to do in every possible circumstance and arrange the distribution of realized costs and benefits in each contingency (including those where the contract’s terms are violated) so that each party individually finds it optimal to abide by the contract’s terms” (Milgrom and Roberts 1992: 127) as cited in (Braun, 2003)

Of course, such a complete contract is likely rendered impossible by the unpredictability of the directions scientific research can take. As it is impractical to draw up contracts that take account of every possible circumstance, *relational* contracting has been used in its place. This instead specifies “general provisions that are broadly applicable”(Braun, 2003), thereby giving the scientific institutions operational freedom, where the precise actions of the agent is not specified to every conceivable situation.

Such contracting still leads to some cost on the part of the principal who will still have to be an integral part of the decision making process and will also have to monitor the progress of projects to make sure that the agent stays faithful to the contract

As the principal agent relationship is integral to all funding of science technology and innovation, and correct handling of this relationship can dramatically affect the outcome of such research I pose the question: *How does the gates foundation approach the principal agent problem?*

### **3.The Gates Foundation and its Context**

#### **3.1 A Short History of the Bill and Melinda Gates Foundation**

The Bill and Melinda Gates Foundation (formerly The Bill H. Gates Foundation) has since its establishment in 1994 grown to become the largest foundation in the world. From its relatively modest start, having a total budget of 94 million USD, its size, impact and funding has increased at an impressive pace. Even though the Gates Foundation made mention of global health concerns such as child and infant health, family planning and population growth in their first annual report in 1998, there was no mention of the Global health program until the next years report. By 1999 the Global Health Program had been established as an integrated part of the foundation under the leadership of Gordon W. Perkin, the founder of Program for Appropriate Technology in Health (PATH), one of the major recipients of Gates funds (BMGF, 1999).

The fact that global health had become a central point of investment by 1999 is illustrated by the fact that the share of the budget directed towards this issue had increased to 49% of the foundations total funding. The lion's share of this money, 38 %, was awarded to vaccine preventable diseases(BMGF, 1999).

The Foundations global health program awarded 70 grants in its first year, totaling more than 1.2 billion USD. Out of these 70 grants, 9 were awarded to vaccine preventable diseases, 48 to child and reproductive health and 13 to global health issues related to poverty. In 2009 it was reported(McCoy, Chand, et al.) that the Gates Foundation had become the third biggest funder of global health, surpassed only by the US and UK governments.

By 2008, its health budget had reached 1.8 billion USD (65% of total budget). In comparison the WHO budget of 2007 stood at 1.65 billion USD. McCoy, Kembhavi et al.(2009) calculated that the foundations global health program had in the period from 1998 to 2007 awarded grants totaling the value of 8.95 billion USD. Noticeably, in 2008 the Gates Foundation also received 1.8 billion USD from



Warren Buffett in the form of 451,250 shares of Berkshire Hathaway “B” stock which represent the largest outside contribution to the foundation to date.

The Gates foundation continues to focus heavily on disease prevention and especially vaccinations as a tool to combat global health problems. As an aside, the annual reports give little information about the direct impact of the foundations funding, although it lists some of the achievements of their partnerships, such as the success of the Malaria Control and Evaluation Partnership in Africa, which cut the incidents of malaria in Zambia in half (BMGF, 2008). It is hard to say whether this reflect inherent difficulties in gathering such information or an unwillingness on the part of the foundation to release it.

Their primary strategy is to support science, technology and innovation in fields they deem to have received too little attention and funding, and has the potential of having a significant impact on the quality of lives in poor countries. These include, among others, the development of treatments or prophylactics to diseases such as enteric and diarrheal diseases, HIV/AIDS, malaria, pneumonia and tuberculosis. They have defined a three point strategy used to achieve their goals, they are as follows:

Discovery – Closing gaps in knowledge and science and creating critical platform technologies in areas where current tools are lacking.

Delivery – implementing and scaling up proven approaches by identifying and proactively addressing the obstacles that typically lie in the path of adoption and uptake

Policy & Advocacy– Promoting more and better resources, effective policies, and greater visibility of global health so that we may effectively address the foundation’s priority health targets

(BMGF, 2010a)

The gates foundation makes use of a number of strategies to achieve these goals. A significant amount of the funds go towards general operating support of global health partnerships such as the

Global Fund to Fight AIDS, Malaria and Tuberculosis or GAVI. Other grants will be directed towards development of vaccines or other interventions through organizations such as PATH and the Medicines for Malaria Venture (McCoy, Kembhavi, et al., 2009). In addition to these grants that can at times be very large, the Gates Foundation has also established the Grand Challenges Exploration Program that awards grants of no more than 100,000 USD and aims to support “innovative, early-stage research to expand the pipeline of ideas that can lead to those much needed global health solutions”(BMGF, 2010c).

Although the Gates Foundation has generally received acclaim for their work some critical remarks have been made. Most notably McCoy, Kembhavi et al.’s article (2009) raises some critical questions about accountability. They point out the Gates Foundation’s extensive network and potential influence over it. An example of this influence is seen in the foundation’s drive to eradicate malaria (Feachem & Sabot, 2008). McCoy, Kembhavi et al. also mention the unusual constellation of the H8, a self-appointed group of global health leaders of which the Gates Foundation is a member, together with the WHO, The World Bank and others. Also, an LA Times article from 2007 by Pillers, Sanders and Dixon criticizes the Bill and Melinda Gates Foundation Trust (a separate legal entity) for unethical investment in companies whose operations are counterproductive to the goals of the foundation (Pillers, Sanders, & Dixon, 2007).

### **3.2 Global health governance and fragmentation**

In this section I seek to describe the current state of the global health arena, to clarify the environment in which the Gates Foundation operates. Clearly, they do not work in a vacuum, and as such, their actions will have multiple and ambiguous effects that reach far outside their own organization. Likewise, the actions of the myriads of actors in the field will impact on the foundation and affect the environment to which they relate.

Global health governance in this paper follows the framework as laid out by Dodgson, Lee et al. (2002) “In broad terms, governance can be defined as the actions and means adopted by a society to

promote collective action and deliver collective solutions in pursuit of common goals.(...)” It follows then that health governance “concerns the actions and means adopted by a society to organize itself in the promotion and protection of the health of its population”. Finally, due to increasing globalization and the effects it has had on the nature of human interaction and collaboration, but also on disease, it has been necessary to change focus - from an international to a global perspective, in order to effectively combat health challenges.

The WHO, a specialized agency under the UN- has since its creation in 1948 been the leader in establishing the normative framework for health. It has, among other things been the central agency for monitoring disease, advocating and establishing policy and providing countries with technical support. The WHO derives its strength from the mandate given to it through its member states who among other functions dictate policy and elects the Director General of the organization through the World Health assembly.

In the late 90’s early 2000’s there was a growing concern, and several claims to the effect, that the Global Health arena was becoming increasingly fragmented. With a high number of new actors in the field, this led to a worry that the status of the World Health Organization’s position as the leading authority on global health was being undermined. Walt and Buse (2000) claimed that “ Not only are the World Bank and the European Union increasingly playing a role, but so too are a number of important new philanthropic foundations and the private-for profit sector, such as the pharmaceutical industry.” These new partnerships have created an increasingly intricate network of collaborations all over the world, involving actors from a wide range of sectors. This change in global health governance is partly blamed on the WHO’s lacking ability to deal with health challenges in the 90’s. Walt and Buse raised the concern that “With priorities decided by small communities of experts often removed from the realities of programme execution, the question arises who is setting the agenda in international health.” They add that the WHO’s characteristics of universality and representation “are not reflected in public-private

partnerships which often have little low or middle income country representation, and lines of accountability upwards towards their sponsors rather than downward towards their recipients.

Reich and Takemi raise similar concerns. They claim that the architectural changes of global health are diminishing the dominance of both the central funder; the World Bank, and the leader on normative issues; The WHO. “As noted in the World Bank’s strategy document, the global health organisations who were once dominant are increasingly marginal and less influential. This tenet is true for both the World Bank’s previous financial dominance and WHO’s previous normative dominance”. Policy making in global health has as such become a multi-stakeholder process, but without an explicit institutional process and with competition and confusion both globally and nationally.” (Reich & Takemi, 2009)

An example that could in part be leading to such fragmentation is highlighted McCoy, Kembhavi et al.’s article on the Gates Foundation’s grants program (2009) where a self appointed group of health leaders have joined in the afore mentioned coalition called the H8 (no doubt a reference to the G8) that is composed of The Gates Foundation, The WHO, the World Bank, GAVI, the Global Fund, UNICEF, the UNFPA and UNAIDS. The Gates Foundation’s relative influence is presumably strengthened given that they have representatives sitting on the board of both GAVI and the Global Fund.

In addition the G8 and the G20 are, and could be, increasingly playing a role in global health (NKCHS, 2010). And according to Reich and Takemi (2009) “the G8 play a major part in catalyzing efforts to reframe the global health architecture in a more coherent direction.” According to McCoy (2009), the Gates Foundation has also been part of shaping the G8’s health agenda. The Norwegian Foreign Minister, Jonas Gahr Støre recently criticized the G20’s increasing involvement in global affairs, and is worried that its lack of mandate and significant influence can serve to undermine the normative functions of the WHO (Ertel, 2010)

In its 2007 report on Health, Nutrition and Population Strategy the World Bank made particular mention of the great number of new actors in the field of Development Assistance for Health (DAH). Where once the bank itself was the leading funder of DAH, it is no one among many. Despite the great increase in funding (from 6 billion USD in 2000 to nearly 14 billion in 2005) the field is increasingly chaotic, and the Bank warns that if the flawed architecture of global health funding is not addressed we run the chance of squandering the opportunities of improving the health of the world's poorest.

Similarly, the UK Department for International Development highlights three main issues that need to be resolved to improve the support for poor countries. A major issue is the complexity of the health assistance arena. They point to the current situation in which they have to work with over 40 bilateral donors and 26 UN agencies, 20 global and regional funds and 90 global health initiatives. Secondly, and perhaps unsurprisingly this complexity carries a great cost for the developing countries. They point to the case of Zambia's health system which receives support from 15 major international partners. "(...) all of whom expect separate reports, meetings and time – time that would be better spent building the health system than on managing donors". Their third concern relates to the relative underfunding of initiatives to strengthen health systems. Whereas initiatives to alleviate the impact of such diseases as HIV malaria and Tuberculosis have shown impressive results, health challenges that are best combated through more systemic approaches, such as child and maternal health, have received too little attention.(DFID, 2007)

Concerns have also been raised regarding the way in which the money from this new found will to finance global health is spent. It is necessary to make sure that the funding now available is spent in areas where the recipients stand to benefit, rather than being high jacked by vested interest, such as the private for – profit sector. It is also important to ensure that funds are not diverted to expanding, expensive and unnecessarily bureaucratic institutions in the north (McCoy, Chand, et al., 2009)

This seems a very real concern for many countries that are already burdened by the growing number of actors and partnerships, each with their own application, monitoring and evaluation processes; Zambia being one example among many.

### **3.2.1 Public private partnerships**

In recent years, with the diminishing role of the WHO, many Public Private Partnerships (PPPs) have been established to lessen the burden of disease in the developing world. Some of the more prominent ones are GAVI, The Global Fund, Stop Tb and MMV, but many others exist. These PPPs represent one of the significant causes of the increasingly fragmented field global health governance (Szelezák et al., 2010). They also represent an example of The Gates Foundation's impact, as they both fund and sit on the board of all the PPPs mentioned above as well as others. (GAVI, 2010b, 2010c; GFATM, 2010a, 2010b; MMV, 2010a, 2010b; Stop-Tb, 2010a, 2010b)

The goals of several of the PPPs have often been to provide already existing interventions to populations who have yet to benefit from these, while others, such as the Product Development Partnerships (PDPs), have focused on research for the development of new interventions.

While many of these PPP's might possibly have an underlying goal of creating a market pull for the development of new interventions GAVI, with the help from Gates and others, has made their intent very obvious by establishing what they have termed Advanced Market Commitments. The first AMC to have been launched is intended to create a market stimulus for the development of a new pneumococcal vaccine. This represents a novel approach to health funding, and is an example of how innovation is not necessarily restricted to the development of new drugs, diagnostics etc (GAVI, 2010a).

## **4. Method**

The case study is according to Yin (2009) appropriate as a method when the research is being done into a contemporary issue and the investigator has little control over the events as they take place. In addition

the case study is suitable when applying questions of ‘how’ and ‘why’. Also “(...)the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events(...)”(Yin, 2009, p. 4) Since all of these conditions are met in this paper I found it to be the preferable method of research.

The Gates Foundation, as the unit of analysis was defined relatively late, after having decided upon Global health as a topic of interest. I found an extensive literature on global health policy and fragmentation within the field, but surprisingly little was written about what had become the largest philanthropic organization in the world. I assumed that a foundation so heavily focused upon scientific development to combat health problems would have a significant influence on innovation in this field, and this is what I wish to explore further in this paper. The relative scarcity of literature dedicated to innovation in not-for-profit organizations means that the paper must rely heavily on the interviews conducted with actors in the field. As this topic is political in nature I decided to make extensive use of Lundvall and Borrás’ framework on STI policy extensively to say something about the policy implications of the works of the Gates Foundation. The size of the foundation, I believe, further justifies such a use.

The research question in this paper is a ‘how’ question. None the less it seems that my case study will benefit from both an exploratory and explanatory approach. The purpose of this case study is to understand the effect the Gates foundation has on Global Health governance, with specific reference to innovation. This research should in turn lead to further hypotheses and propositions for further study.(Yin, 2009, p. 9). Importantly, the case study does not aim to achieve any sort of statistical generalisability, but rather what Yin describes as analytical generalisability, which can be used as a template for further investigation.

Due to the complexity of the unit of analysis and the environment in which it operates it has been vitally important to use multiple sources of evidence, such as journal papers, annual reports, web pages, etc to corroborate the findings from the interviews.

The research question for this paper is: How does the Bill and Melinda Gates Foundation's Global Health Program affect innovation and innovation policy in the global health field?

Due to the scarcity of research done into both not-for-profit NGO's and the Gates Foundation itself, I find it to be a research question that serves the purpose of this paper well. I have had the great fortune of being able to research the Gates Foundation at a time when its activities are gaining both attention and influence. Because of its contemporary nature I have focused on interviews as my main source of evidence, in addition to sources mentioned above. According to Yin, interviews are one of the unique strengths of the case study, and therefore a vitally important source of evidence when the researcher does not have the ability to manipulate the conditions of the field of research, such as is possible when dealing with controlled experiments (Yin, 2009, p. 11).

The reason for including such an extensive explanation of the current Global health field and its fragmentation is related precisely to this inability to control the environment in which the Gates Foundation operates. It is obviously impossible to understand the activities of the foundation outside this environment. Nor is it possible to remove or alter this environment. In the words of Yin, the conditions of the global health arena are "highly pertinent to [my]phenomenon of study" (Yin, 2009, p. 18).

After having studied the literature on the Gates foundation, the global health field and of innovation several questions were posed. The analysis of the interviews was then based around answering these questions.

#### **4.1 Construct Validity**

To maintain construct validity it has been important to define the relationships between concepts in a logical manner. This serves to link, for example 'impact' to specific concepts such as 'innovation', so as to demonstrate the rationale behind the operational measures.



The multiple sources should hopefully aid the construct validity and establish what Yin describes as a ‘chain of evidence’. One weakness of this report is the lack of a draft case study report.

#### **4.2 Internal Validity**

Internal validity deals first and foremost with causal relationships. In this thesis however it is an important concept when it comes to making inferences. As with many case studies, it can be very hard to observe the causal relationships between different events, especially the causal direction. This is certainly the case in this study, and therefore inferences have to be made. To ensure internal validity it has therefore been vitally important to discuss the results of the interviews with both the sources and others. These discussions have had a great impact on this paper, and I owe a lot to my colleagues and other external sources. In particular, conversations with a source at the Norwegian Health Directorate and a former board member of GAVI and the Global Fund have been instrumental to my understanding of the global health arena and the Gates Foundation.

#### **4.3 External Validity**

As mentioned above, the case study at hand does not aim at any sort of statistical generalisability, but rather analytical generalisability. The Gates Foundation was chosen on the basis that it was believed to have an impact on innovation and policy making. To investigate to what extent the findings are generalizable to other organizations, one has to choose other units of analysis where conditions are similar.

#### **4.4 Reliability**

The purpose of reliability is to ensure the possibility of replication of the study. This means in theory that anyone repeating the study would find the same results. This is, I imagine, most useful for those who are

interested in doing further research into similar organizations, as a replication of a continuously developing organization such as the Gates Foundation is bound to yield different results over time. Importantly reliability serves to exclude biases and errors of the researcher. Reliability is achieved here by including the sources of information, as with references, so that any use of data can be scrutinized. Furthermore, I have included the interview guides in the appendix for review. The interviews are all based around the same topics, but differ slightly to suit the interviewee. The interviews have been transcribed as faithfully as possible and both audio files and transcripts are available upon request for anyone who wished to investigate them further. The statements made in the interviews have been discussed with others and compared to other sources to check for controversy and further strengthen reliability.

#### **4.5 Single Case Design**

The case study at hand is a single case study. Yin states that this type of design is justified when the unit of analysis represents such a unique example that it is difficult to find comparable cases. This could be said to be the case for The Gates Foundation. The foundation is certainly in a unique position in the world today, being by far the largest foundation both in terms of finances and impact as discussed above. The Gates Foundation has received relatively little attention and this study seeks to aid the understanding of how the foundation influences innovation and policy

However, it could be argued that other foundations have increasing amounts of influence, such as the Wellcome Trust, which certainly is a foundation deserving of further research. It might also be hypothesized that such a foundation could have similar, although probably to lesser extent, impact on innovation and policymaking. This could clearly be said to be a weakness of this thesis. However with its unique position, its complexity and scale it has been natural to limit this report to a single-case design.

### **4.5.1 Embedded Case Study**

To get a clearer view of the operations of the Gates Foundation it has been necessary to go beyond the organization itself, and interview a variety of groups receiving Gates funding. These cannot be said to exactly represent sub-units of the organization, but their inclusion in the study has been absolutely indispensable for a proper understanding of how the foundation influences innovation and policy. These secondary units of analysis include the WHO, research institutions, PDPs and PPPs. The Gates Foundation is closely tied to all of these and is even represented at board level on several of these

While using the embedded case study approach it has been important to relate the findings back to the overall operations of the foundation, as prescribed by Yin (2009 P. 52).

### **4.6 Data Sources**

As discussed extensively by Yin, case studies can be supported by several types of data. Furthermore it is seen as advantageous if one can utilize more than one source at once. Several sources can then supplement and strengthen each other. Documents can be employed to “corroborate and augment evidence from other sources”(Yin, 2009 p. 103). It has, in regards to the above statement, been an important part of the analysis to observe discrepancies or correlations between statements from interviews and the information given in documents, and to investigate these further.

Initially annual reports and web resources from the Gates Foundation were vital in understanding the purposes and goals of the foundation. However, it is important to view these documents in light of being composed by the Gates Foundation.

#### 4.6.1 Interviews

As pointed out by Yin, the interview is one of the most important sources of information when performing case studies. For my interviews it was necessary to develop an interview guide that ties in with the overall objective of the paper. At the same time it was essential to develop the interview guide in such a way that it allowed for the development of ideas and conversation.

The interviews took the form of focused, but open ended interviews to allow the interviewees to contribute their own insight and knowledge, and as a result the interviews often took unexpected, but useful turns. Two of the interviews were particularly free and unstructured. These two interviewees might therefore be seen as informants rather than respondents. They were the first ones to be interviewed and turned out to be extremely useful for the development of the thesis. However, it has been important for the sake of the integrity of the thesis to corroborate any information given by these two interviewees with other sources, such as journal papers and subsequent interviews. I have attempted, as far as possible, in conjunction with Yin's advice, to appear as naive to the topic as possible to avoid leading or swaying the interview.

Yin (2009, p. 181) high-lights the importance of disclosing the identities of informants for the sake of critical review. It was natural to disclose the identity of the Gates Foundation for many reasons. It does not represent an ideal case so its identity is definitely of importance. Also, for the sake of open debate it is important that the unit of analysis is known to the reader. If not this thesis would to a certain degree lose its relevance. On the other hand, the identities of the informants are not disclosed. There are several reasons for this. Firstly, the Gates Foundation is topic of controversy, and negative statements might conceivably have a negative impact on the informer. Secondly, as the Gates Foundation is a significant funder of researchers and their institution I believe that anonymity could have a positive effect on the willingness to disclose sensitive or critical information about the foundation, on the part of the informant.

The interviewees were selected on the background of their position in regards to both their relation to the Gates Foundation and to the global health field. Some were also found through the method of snowballing. They came from a variety of backgrounds to secure a fair overview of the operations of the foundation. However, the thesis could have been strengthened by having performed more interviews from a wider variety of grant recipients; particularly, recipients of the Grand Challenges Exploration Program are not included. It would also been beneficial to have interviewed more than one representative from the Gates Foundation, but time constraints made this impossible.

The interviewees, who were all offered anonymity, were as follows:

One representative from The Bill and Melinda Gates Foundation

Two representatives from the World Health Organization

One representative from the Global Fund to Fight AIDS, Tuberculosis and Malaria

One previous board member of GAVI

One representative from PATH

Two representatives from the Institute for Health Metrics and Evaluation

One representative from Medicines for Malaria Venture

Two individuals who have themselves studied the Gates Foundations over an extensive period

One representative from the Norwegian Directorate of Health

## **5. Analysis and Discussion**

Analysis of the interviews was conducted, largely, on the basis of the questions posed earlier on. However, much unanticipated information was revealed through the interviews, and has contributed significantly to the end product. The research questions and the associated findings contribute to the overall picture of the thesis and is the foundation on which it is built. This has hopefully resulted in a logically structured thesis that is intuitive and easily read.

The analysis of the operations of a foundation such as the Gates Foundation is of course difficult. It is further complicated by the fact that the Gates Foundation often operates and disseminates its money through the global partnerships with which it is involved, as with the Global Fund and GAVI where it is represented on the boards. Furthermore, actions taken by a given PPP might not always represent the views of the Gates Foundation. It has therefore been important to keep the activities of the foundation and the partnerships separate except in cases where the foundations influence has been obvious.

This next section will discuss the findings with reference to the questions posed in the theory section. Finally, the overall purpose of this section is to relate back to the theory that was the basis for the formation of those questions, and the relevance to those theories will be examined.

### **5.1 How does the Gates Foundation fund science, technology and innovation?**

This is obviously a complicated question to answer. The first and very obvious characteristic that is commented upon by all of my sources is that the foundation is extremely focused on scientific and technological development to combat diseases that have previously received too little attention, and on using existing technologies in new areas. This trait is also easily recognized from their grant portfolio, annual reports and web pages. The second point made by all of the interviewees is that the Gates

Foundation is exceptionally business oriented. This is something that is probably not entirely new to the field but, as the Gates Foundation is the largest private foundation in the world and undoubtedly the largest private funder of global health science and technology, it has definitely had a significant impact on orthodox thinking in this area. One source put it this way:

[The Gates Foundation and its partnerships] have broken down the traditional ways of doing business. They have combined research, governments, private sector in new and untried ways. They have harnessed the power of civil society in driving policy and engaging people. They have harnessed the non-public sector in the countries for implementations.

As mentioned in the literature review it is assumed that foundations will lack a profit making incentive, but as mentioned by one of the interviewees, the Gates Foundation cooperates with many commercial actors and thus relies on profits to make investments into drugs for neglected diseases economically sustainable. It also indicates that the Gates Foundation has as discussed by Zimmermann(1999) been able to attract ‘the necessary factors of production’, presumably because commercial actors such as the pharmaceutical companies have realized the possibility of expanding their markets.

The recipients of Gates funds also portray the staff at the foundation as very knowledgeable, something that appears to enable them to be more collaborative throughout the grant period, from shaping of the milestones to the end product.

One of the strategies of The Gates Foundation that seems directly linked to this business oriented way of thinking is, their Global Access Strategy. This is a strategy laid out mutually by the foundation and the grantee that explains how the funds provided can be accessed by those for whom the end-product is needed. In the words of the foundation’s representative:

Our goal is impact. So if it gets us through to a licensed product but it’s not affordable you’ve failed. If you get a cheap and licensed product but no one is going to manufacture it and deliver it in Botswana, you’ve failed. If the goal is impact you have to work backwards from what it takes to get there.

Their attention to the milestones also appears to set the foundation apart, at least from funding agencies such as the NIH who focuses predominantly on publications. The Gates Foundation seems by contrast to have a broader concept of what the deliverables should comprise and is much more focused on concrete outcomes. This is in keeping with the objective of maximizing the impact of its interventions. This goal of impact can conceivably also function as an intrinsic incentive as replacement for a profit incentive, as per Zimmermann(1999).

As the Gates Foundation funds myriad different initiatives this global access strategy can take many different forms. Gates money was an important factor in setting up the Institute for Health Metrics and Evaluation at The University of Washington whose mission is to “monitor global health conditions and health systems and evaluate interventions, initiatives and reforms”(Ravishankar et al., 2009). Their deliverables will naturally be quite different from those of Product Development Partnerships, such as that of the Medicines for Malaria Venture. In the case of health metrics data, which is normally published through peer reviewed journals, the global access strategy has lead to innovative ways of thinking about dissemination of findings. For example, the Gates Foundation has in connection for some grants made it compulsory to produce software to process data on health metrics that can be used in developing countries. This poses a challenge to the IMHE, according to one of their representative, because the computational power conventionally needed for this type of software is often not present on location.

The setting up of the IMHE could be seen as a significant contribution to global health science in itself. Data on the effectiveness of immunization initiatives in is often scarce and the amounts of money the IHME is receiving in way of Gates grants is, according to one of the IHME representatives, unusual for their line of work. However, while one source regards IHME as “impartial arbiters that are looking at statistics and trying to understand what is really happening” the concern is, as raised by another interviewee, that the IHME might run into a conflict of interest since it will also evaluate the effectiveness of Gates initiatives.



The Gates Foundation has also famously supported and been instrumental in the setting up of large Private Public Partnership's like GAVI that focus on procurement of already existing interventions. GAVI is in itself not involved in development of vaccines but they were responsible for the establishment of the AMC mentioned earlier. The AMC was an initiative intended to drive the development of a new pneumococcal vaccine that is now in the pipeline. This is a very concrete example of how the funding of the Gates Foundation can create a market pull for new vaccines. The AMC was targeted specifically towards the production of a pneumococcal vaccine but it is not inconceivable that the money that has been made available through the Global Fund, UNICEF, GAVI and others signals to the pharmaceutical industry that there is a market for drugs against previously neglected diseases.

In accordance with Zimmermann's(1999) categories of output the Gates Foundation primarily aims at what he terms as 'activities aimed at public goods', namely; 'provision and production of public goods', and to a lesser extent; 'support of public production'. The former is achieved through e.g. funding for procurement of established therapeutics or, where these don't exist, funding for research into drug development and diagnostics, etc (BMGF, 2010b). Of course the specific provisions made by the Gates Foundation are in strict economic terms not all public goods, hence not all are characterized non-rivalrous consumption and nonexcludability (Stiglitz, 1993), such as with drug delivery. However, gains in scientific knowledge and communicable disease control do have the characteristics of public goods (Labonte & Schrecker, 2007). There is, however another side to the funding that the Gates Foundation provides. The Gates Foundation also makes wide use of the knowledge and expertise that exists in the private sector. The partnerships established with the for-profit sector imply that there is also an economic gain on their part, such as in the case of the AMC. The Gates Foundation's use of intellectual property rights to incentivize their partners is also interesting, and will be discussed later.

The conclusion to this question is that The Gates Foundation has definitely taken part in shaping new models to finance global health science, but perhaps more importantly they have focused on

financing previously underfunded fields of science. So rather than just setting up new models of funding they have focused on funding areas that were previously neglected.

## **5.2 How does the gates foundation use demand to direct their funding of science technology and innovation?**

This section looks at how the Gates Foundation uses demand signals to set priorities. It also deals with the systemic nature of innovation and how the system that the Gates foundation is part of is exploited to its fullest potential.

Questions have been raised about how the Gates Foundation sets its priorities (McCoy, Kembhavi, et al., 2009; Raikes, 2010). This is still unclear, and the foundation's web pages offer little explanation except for broad references to 'development and implementations of cost effective interventions', etc. In particular it is hard to understand how exactly the foundation decides upon specific project, or chooses one over the other.

Looking at the burden of disease is one such way that the Gates Foundation can estimate the effectiveness of an intervention, were it to be developed. When asked about how the Gates Foundation set their priorities the representative from PATH said:

Certainly one is looking at the global burden of disease and try and understand which diseases have significant burdens, that might be underrepresented in terms of investment technology development or investment in service delivery, and try and address those.

Assessing the global burden of disease is a sound way of figuring out how many lives can be saved by an effective intervention but due to the unpredictability of the outcome of vaccines that have yet to be developed versus other interventions such as providing clean drinking water it is very difficult to assess the cost effectiveness of one over the other.

The Gates Foundation has as noted created consensus around the goal of eradicating Malaria with the support of the WHO. This is a very ambitious goal with high stakes. Interestingly, it seems to have come as a surprise to the scientific community as well as senior lieutenants within the WHO (Roberts & Enserink, 2007; Snow & Marsh, 2010). Furthermore, the eradication program has also received criticism for being less cost effective than a program of effective disease control. The momentum of this campaign seems to have created unrealistic optimism as seven African leaders have made it public that they will attempt to eradicate malaria in the next seven to ten years(Snow & Marsh, 2010), despite more modest timelines suggested by Bill Gates and others.(Feachem & Sabot, 2008; Roberts & Enserink, 2007)

Furthermore, the two interviewees who had themselves studied the Gates Foundation reported that the African leaders had to be convinced of the plans to eradicate malaria. This exemplifies how it is sometimes unclear how the Gates Foundation sets its strategies. It appears that they did not employ the full extent of their network in deciding on this particular strategy, given that this announcement came as such a surprise to so many of the stakeholders. The Two had attempted to ask the Gates Foundation about the way they set priorities but had not gotten any answers, and added:

When you ask them, how do they actually find their ideas, and how do those ideas get to them at any sort of grass root level, I don't think you'll see it. They are attending high level conferences all the time, their able to attract the best of the best researchers out there, who are all, you know, the top class in the field. But that is often not where some of the best innovations come from.

It seems from their experience that most of their input comes from individuals in the upper echelon of the field who may or may not be an appropriate source of relayed information. In addition they pointed out that the Grand Challenges Exploration Program might be a way to access the ideas that exist outside the network the Gates Foundation has established and thereby balancing their advisory input. This also seems like a feasible approach to avoid a situation in which they would be 'picking the winner' and at the same time help to avoid lock-in(Lundvall & Borrás, 2005). However, given the communication

problems that the foundation is experiencing it might be difficult to make use of the opportunities that this program offers.

One interviewee from a recipient organization who made it clear that his comments were made in a strictly personal capacity seemed insistent that the high quality analysis and policy discussions that take place in the foundation are not followed up with the same diligence and rigor. He summed up his view of the decision making process like this:

The decision making time is always about a briefing of Bill and Melinda. And there is this sort of mysterious transformation a couple of weeks before that briefing takes place. Where all policy discussion, everything goes silent, and all you get is a one way street of asking for information to the foundation. There is never anything coming back from them and the way those questions come, you get the sense is that what's going on now, is not so much discussing "what is well founded, thought through policy?", but "what do we think it is that Bill and Melinda want to hear?". And that is deadly. Because they don't get briefed, they don't get challenged on their thinking sufficiently. And the organization inhibits its own ability to think and I think that is really damaging. Also, the other element of this, for being a private institution run by someone so focused on return and investment and results The Gates Foundation has very little ability to measure the effectiveness of its own investments. There is hardly any way for The Gates Foundation to measure what it gets for its investment. It doesn't do it, and it doesn't tell anyone if it does.

First of all this indicates that the internal communication at the foundation is not functioning as well as one could hope. In terms of a system framework for innovation this is disconcerting and not in line with the view of successful innovations being a product of a collective achievement as per Van de Ven(1999). It is interesting to note that an organization that seems so positively disposed towards free market mechanisms, and has had such success in putting them to use focuses so little on accessing information from the demand side. The information that the foundation will get from the recently formed IHME might to some extent alleviate some of these difficulties, particularly in relation to the quantitative information on the effectiveness of its interventions.

Another interesting aspect of this is that GAVI, The Global Fund and the many other grantee organizations could be a way for the gates foundation to 'hedge its bets' in terms of information about demand. As long as they spread their funds across multiple organizations with clearer governance and

better monitoring capabilities the foundation's need for information could be mitigated, especially when taking into account that a lot of these organizations are not only middlemen, but also users of the science and technologies that the Gates Foundation is supporting.

The Global Fund model of funding is such that funds are distributed among countries that procure the drugs themselves. They also have a Country Coordinating Mechanism in each of the recipient countries consisting of a variety of local and sometimes also international organizations that have exclusive access to finance from the Global Fund. Hence, in this instance, the money will be spent at a level much closer to the demand side than is often the case with Gates money. By improving the absorptive capacity of the foundation both internally and externally this network of information could presumably be put to much better use

As a whole it seems that the Foundation generally operates along the lines of precisely such a sectoral system approach as outlined in the literature review, intentionally or not. They are keenly aware that they cannot take on the responsibility of global health challenges on their own, and say so. So to increase their impact, they have joined forces with both private and public actors, NGOs, FBOs and supra-national organizations. Furthermore, they are also devoted to influence policy, presumably to improve institutional arrangements and legal frameworks etc, as well as strengthening health systems. But it appears that there a piece of the puzzle missing. At the very least it is unclear how The Gates Foundation accesses information about demand that will allow them to make good decisions regarding their strategies.

### **5.3 How does the Gates Foundation communicate with, and acquire information from their partners and grantees?**

This section is closely related to the previous one as they both have to do with the foundations ability to absorb information from its surroundings. This section will deal with how the foundation retrieves

information from its established system of grantees, while the previous mainly looked at how it accesses information external to that system and how this impact on the foundations priority setting.

The Gates Foundation does appear to struggle with the communication between themselves and their grantees. The foundation has openly admitted to this, and has published a summary of their grantee perception report that was rather negative about the foundations communication efforts on their web pages. The CEO of The Gates Foundation, Jeff Raikes, wrote this in the summary:

[W]e received lower than typical ratings on many other aspects of the grantee experience. Many of our grantee partners said we are not clear about our goals and strategies, and they think we don't understand their goals and strategies. They are confused by our decision-making and grant making processes. Because of staff turnovers, many of our grantee partners have had to manage multiple Program Officer-transitions during the course of their grant, which creates more work. Finally, they say we are inconsistent in our communications, and often unresponsive. We take this feedback very seriously, because we understand that some of these barriers are preventing our partners and us from having our maximum impact. (Raikes, 2010)

These views were, however, only to a limited extent echoed by the interviewees. Several mentioned the rapid growth of the foundation as a central cause of the communication difficulties, or that the program officers were so busy that they could be difficult to get a hold of. But the interviewees also seem to think it is improving. Most of the grantees interviewed point to a layered structure to the communication with The Gates Foundation. People at similar levels in the foundation and the recipient organizations will talk to each other. They will also interact at conferences, board meetings and other meetings hosted by a variety of organizations that operate in global health. At PATH, however, they had found that making the meetings more formal helps to make the communication process easier:

If we don't predetermine dates for the steering committees or the key decision makers to meet and talk about what the process is, then we run into scheduling issues and we also run into informal lines of communication which sometimes aren't as effective.

So by and large, the respondents were fairly positive about the communication between themselves and the foundation.

There might be several reasons why there is a discrepancy between the findings in this thesis and the grantee perception report. One is that the grant recipient interviewees all work in organizations that receive substantial funding from the Gates Foundation; moreover, the Gates Foundation has board representation in several of these organizations. It seems natural that these organizations would receive more attention than many other grantees. On the other hand it is also natural that the interviewees would choose their words carefully when talking critically about The Gates Foundation.

Another reason for this discrepancy could be the foundation's Grand Challenges Exploration Program. This is the project under the Global Health Program that supports innovative and early stage research initiatives with up to 100,000 USD – relatively small sums compared to other grants. There are more than 340 recipients of these grants around the globe (BMGF, 2010c). These could be the source of dissatisfaction in the grantee perception report as it is unlikely that they would receive as much attention from the Gates Foundation. However, more research is needed for more conclusive assessment.

It is still worth discussing the possible negative impact that poor communication between the foundation and its grantees could have on innovation. In relation to theory the lack of communication documented in the Grantee perception report could lead to inferior results when it comes to innovation. The Gates Foundation is in a unique position with an incredibly diverse set of organizations and individuals tied to its operations. This should indicate that there is massive potential for absorption on new ideas. As the organization reportedly has problems assimilating the feedback from its partners, some of the potential that lies in this absorptive capacity is lost; indeed, this is noted by the CEO of The Gates Foundation in the quote above.

To fully exploit the knowledge that originates with the grant recipients it would be useful for the foundation to employ Gate Keepers, as per Cohen and Levinthal(1990), to ease the process of absorption. As mentioned above, the Gates Foundation has received praise for being knowledgeable about the processes and technologies that they are investing in. This should indicate that the Gates Foundation has a

strong potential for increasing their absorptive capacity, as prior knowledge is a determinant of absorptive capacity. One interviewee also reported that he has to spend a lot of his time translating what they are doing into terms that employees at the foundation can understand. In this respect he might serve the position of a boundary-spanner well, but it is crucial that the information that is translated gets incorporated by the foundation. As pointed out by Cohen and Levinthal (Cohen & Levinthal, 1990), R&D departments can have a positive impact on absorptive capacity. Making use of 'external boundary spanners' such as the one mentioned here could be a way for the foundation to make use of the knowledge that originates within the R&D departments of other organizations

That is to say that dissemination of information internal to the organization also needs to be prioritized. The statements from the quite critical quote in the previous section indicates that that crucial information is not always fed back to the three chairs, who are ultimately responsible for strategies. Whether this is a result of organizational culture or structural and organizational arrangement is not clear, but placing a greater focus on gatekeepers and boundary spanners would likely strengthen internal communication and allow for better evaluation of strategies.

Ultimately, if the Foundation does not pay attention to these issues the advantage it has, given the strong knowledge base the foundation already possess, could be lost. As discussed in the literature review, absorptive capacity is path dependent, so if the foundation wishes to remain at the forefront of innovation in the global health field it needs to make sure that new knowledge is continuously absorbed.

#### **5.4 What characterizes the Gates Foundation's STI policies and how do they affect the global health field?**

Having looked at The Gates Foundation's approach to financing global health, priority settings and finally absorptive capacity, this section will attempt to assess the policy implications of their operational methods including some of those discussed above.



The Gates Foundation's focus on scientific and technological discovery is well known, but it has also made very large funds available for the procurement of vaccines already available in the developed world. As several of the interviewees point out, their efforts to join forces with the for-profit sector they have arguably been able to create a market pull for new and cheaper vaccines, as well as driving the prices of existing vaccines down.

However, the Gates Foundation has received a fair amount of criticism. It has been widely criticized for their relative lack of focus on health system strengthening, which could lead to the 'medicines without doctors' syndrome (Ooms, Van Damme, & Temmerman, 2007). Arata Kochi, the former director of the WHO Malaria Program criticized the foundation for pushing their policy recommendations through, despite reportedly not being able to prove their efficacy. He was also worried that the dominating role played by the Gates Foundation would stifle the diversity of research (McNeil, 2008b). One head of a Gates funded organization had according to a New York Times article joked that the target of malaria eradication had become "the new marching order" and "Go along with it if you want to get funded" (McNeil, 2008a).

These remarks raise several issues. It appears from the responses from my sources that the Gates Foundation does fund health systems in a variety of ways, through the Global Fund, PATH and others, but it is clear from its Priority Areas of Focus (BMGF, 2010b) that this is not its primary mission. To what extent it funds health systems compared to other focus areas, and whether it is sufficient is not clear and deserves further attention.

The accusations of steering and, directly or indirectly giving 'marching orders' are serious. It could, as discussed in the literature review, be a hindrance to new and unsuspected solutions to problems. On the other hand, their attention to the Grand Challenges Exploration Program might be a very effective way of countering these effects, and allow for greater diversity in the science and technology that is

funded. It also seems to be a good way of avoiding the problems intrinsic to attempting to ‘pick the winners’ (Lundvall & Borrás, 2005), which is a very difficult task.

Interestingly, when employing Lundvall and Borrás’ framework of technology policy we see that the Gates Foundation uses both a catching up strategy and a strategy of employing the newest science based technologies – characteristics of low and high income countries respectively. This is seen in the way that it focuses on developing new vaccines and providing existing vaccines simultaneously. This is made possible by the large funds it possesses, and allows it pursue long term, ambitious strategies while using established technologies to combat certain diseases in a short term perspective.

Another paradox of the Gates Foundation’s funding policy is highlighted when using this framework. Lundvall and Borrás stated that governments could justifiably fund technologies of which they are themselves major user, but should be more cautious when developing technologies for the market. First of all, many of the very large users of technologies supported by the foundation are, not only recipients of Gates money but also to some degree guided by the Gates Foundation as it has board members on several of the recipients’ boards. And in terms of the market, the Gates Foundation is to some extent the driving force of that market as it also funds the procurement of vaccines. So while innovation policy, according to Lundvall and Borrás, has mainly focused on economic growth and competitiveness and to a lesser extent social cohesion and equality, the Gates Foundation appears to be doing both

The successful marshalling of support for eradication of malaria as an important target is an example of the penetrative force of the foundations policies. It might also be an example of how the Gates Foundation is infringing on the WHO’s position as the normative agency in global health. One source adds that, “(...) it’s clear that The Gates Foundation has huge influence over research priorities, research policies, research targets, what gets to the market, what doesn’t get to the market”.

However, even if the Gates Foundation has historically made some moves that might be considered normative in nature, several sources state clearly that the diminishing role of the WHO is not caused by the introduction of Gates Foundation or others, but rather a problem inherent to the WHO. They blamed it on a lack of clear political leadership and mission within the organization. This view stands in clear contrast to the view held by McCoy and others. The extent to which the Gates Foundation is a threat to the WHO might also be overestimated through a crude comparison of their respective budgets which are comparable in size. However, the WHO dedicates very limited amounts of funding to research, nor is it particularly involved in procurement, and appears never to have seen that as its mission. As one source notes, there have always been many players in the global health arena, so the apparent diminishing role, according to him has to do with its political leadership. However, it seems justifiable to be concerned that other parties will move into the normative space in the absence of the WHO.

The foundation's rather unusual ability to gather support from a diverse field of actors is supported by the statements of the interviewees, not only in policy but also in funding. Several of the persons interviewed remarked on their ability to create momentum around specific areas of funding; a phenomenon that is not usually seen when funding originates from states or other organizations. One termed this the 'multiplier effect' and added that while the Gates Foundation has, "invested billions of dollars in vaccines, (...) they have helped to raise maybe tens of billions of dollars for that same effort."

This multiplier effect has had a massive impact on health funding, and generated a lot of support for funding of previously neglected diseases. While this appears to be one of the really great achievements of the foundation, the interviewees, from both inside and outside the organization sounded a note of caution: just as the Gates Foundation can create momentum when they enter into a field, the opposite applies when they leave a field. There is no evidence that this is true in the case of the Gates Foundation's initiatives, but the issue of disillusionment and donor fatigue when is well documented in studies of other programs(cf. Hardon & Blume, 2005). Another issue that deserves attention is whether

the consensus that the foundation can create around certain issues can lead to path dependency and eventually lock ins, as discussed by Lundvall and Borrás (2005 p. 611).

Arguably, the foundations influence over policy, funding of science and technology and procurement, and their ability to, periodically set the agenda for global health in a significant way would normally entail some level of accountability and transparency.

Now, to a degree the foundation might insure some accountability through funding organizations with much clearer leadership and mandate than the gates foundation itself, much in the same way they gather information. On one level this approach to funding counteracts the low level of accountability in the foundation by spreading it across multiple actors, but the main issue of priority setting remains. The Gates Foundation is still in a unique position when it comes to priority setting, possibly nearing a normative position in the world. And as remarked by the representative from the Norwegian Directorate of Health it is not clear who would stand accountable to failures of programs directed by PPPs as well. It is for example unclear who would be liable if a drug or vaccine should turn out to be harmful; the public or the private partners? The question of accountability and transparency will be revisited in the concluding remarks

It is clear that the Gates Foundation does affect global health policy. To a degree it is positive that policy is shaped by a multiple actors as innovation is in this field, as in other fields, a communal achievement, as per Van de Ven (1999). The system view of innovation also recognizes the importance of representation of civil and private interest as a corrective influence to the bias in favor of commercial interests. The question is whether the Foundation has too much power over policy and science funding and whether it has, as I argued earlier, taken on the characteristics of states.

If this is indeed the case, the Gates Foundation has to be wary of the implications this might hold for the direction of science technology and innovation. There is a danger that any one agency in such a position of power could steer the direction of STI in unfavorable directions. If the foundation has

hegemony over the priorities of e.g. malaria and they do not focus on diversity of opinions and research priorities it could lead to lock-ins and eventually inferior outcomes for the world's poorest.

### **5.5 How does the gates foundation approach the principal agent problem?**

This topic is in some ways closely related to the previous topic of how The Gates Foundation funds science. The representative from The Gates Foundation describes the relationship between themselves (as the principal) and their grantees (as agents) as one of creative friction.

The foundation will often release requests for proposals (RFP's). These can be broad RFP's but are more usually closed RFP's. This means that the foundation will select six to ten groups which will compete for a certain proposal. When deciding on a group to receive the grant milestones and deliverables are jointly decided upon by the foundation and the recipient. This is mentioned by several of my interviewees as an important method for successfully aligning the interests of both the foundation and the grantee. This process can conceivably lead to a sense of co-ownership of the projects and help to align the agent with the principle.

All though this cooperative approach to the setting of milestones appears to work well for both parties, doing so entails an inherent principle agent problem of its own. There is according to one of the sources an incentive on the part of agent to make the milestones as routine and easily met as possible, while there is intent on the part of the foundation to make them seem substantive. In effect, the principle agent problem may simply manifest itself at an earlier stage.

An interesting aspect of this relationship is exemplified by PATH's relationship with the foundation. When asked how they set their priorities their representative replied that they respond to their funders. This is put quite simply, but it seems that many recipients follow PATH's example of trying to align themselves as closely as possible to the objectives of the Gates Foundation, and do so quite comfortably.

Another example of how to align the recipients of the money to the funders is the AMC. As mentioned earlier the AMC is not a purely Gates funded initiative, but The Gates Foundation played an important part in its formation. The funds for the AMC are not released until the product is ready for market. The AMC is a commitment to buy the product when it is finished. In this way the funders are assured that the producers will have to make a vaccine to their specifications before they procure it. This might be considered as a way of circumventing the principal agent problem all together.

The foundation's somewhat creative use of intellectual property rights is mentioned by several of my sources and seems to work well as an incentive for cooperation with the foundation. The foundation appears to own none of the IPR's that come out of their partnerships. Neither do they appear to have one single strategy for how to deal with IPR's. Rather, the specific IPR requirements are worked out in relation to each grant, with the global access strategy as the core principle. This means that if the grantee is going to own intellectual property as a result of their funding they will have to present to the foundation how they will manage it to assure global access. This will in some cases mean that the grantee can offset the expenses associated with the development of a drug by selling them at market price in developed countries and license them cheaply in developing countries. According to the Gates representative it is more challenging with platform technologies that can be used to cure many different diseases as it will be desirable that this is open to scientists all over the world. This is how one representative from the IHME describes the foundations relationship to IPR: [T]hey want to ensure that there are mechanisms through whichever IP mechanism that is most appropriate to the individual project, that the deliverables have the widest dissemination uptake.

It is interesting to see that the foundation has found that the relationship between the principal and the agent has creative potential. Even though it is not a frictionless relationship the very fact that there is tension between the two can in itself lead to new ways of working or thinking. The way that the foundation deals with IPR's might be an example of that.

In practice, it seems that the Gates Foundation deals with the principal agent problem efficiently. It is possible that the cooperative shaping of milestones and deliverables in the contracts has caused a change the institutional embeddedness of scientists, as per Braun (2003). According to one source, the Gates Foundation has “helped make global health intellectually sexy”. It appears thus, that scientists deem the pursuits of the Gates Foundation to be academically worthy, and as such diminishes the danger of Moral hazard.

## **6. Concluding remarks**

This section returns to the main research question of the thesis: How does the Bill and Melinda Gates Foundation’s Global Health Program influence innovation and innovation policy in global health governance? Relying on the analysis above I will try to draw some conclusions about the many ways that the foundation’s Global Health Program has had an impact on innovation and innovation policy in the global health arena. I will also return to the question of transparency and accountability, before presenting some suggestions for further research.

The first conclusion that can be drawn is that the foundation has had a massive impact in terms of funding into an area of much need. They have also, according to my sources been able to gather support and raise awareness for these causes. This is in fact one of their great achievements. The multiplier effect discussed earlier seems to have played a major part in sharp increase in global health funding observed in recent years. The multiplier effect does not merely apply to finance but to human resources to: according to one of my sources there has been a proliferation of interest among young doctors and scientists in matters of global health.

There are some possible adverse consequences of the multiplier effect that also needs to be taken into consideration; what I have chosen to term the ‘reverse multiplier effect’. As seen in previous major health initiatives, failure or negative results can result donor fatigue or disillusionment with a particular

health field. That this is already a concern of the Gates Foundation is illustrated by the concern that the Gates Foundation representative showed for the possible failure of the polio eradication program due to the severe adverse effects that this would have on all of the global health initiatives.

First and foremost their contribution to innovation in the Global Health field seems to be in terms of institutional arrangements and relationships, such as those with The Global Fund, GAVI whose main aim it is to make already existing drugs, vaccines and other interventions available in developing countries. The support for the establishment of the IHME is another noteworthy contribution to the global health field, since it could in the future provide much better data on the effectiveness of interventions.

In terms of scientific or technological development the foundations contribution is arguably more modest. There have been some breakthroughs, however. One example is the Meningitis A vaccine created by PATH in partnership with the WHO and help from the Serum Institute of India, made possible with Gates Funding. The relatively small contribution in this field has to be seen in the context of the age of the foundation. The foundations Global Health Program is now in its 13<sup>th</sup> year. It generally takes more than ten years to develop a new vaccine and the real impact of the Gates Foundation's investments have probably not yet been realized. It will take several more years before a fair assessment of the effects of these investments can be made.

The Gates Foundation has a paradoxical position in global health governance in that it represents one of the new actors in the field, leading to the fragmentation process that has taken place over a number of years. However, several of the interviewees contend that the foundation is also having a coordinating role. The H8 and the many conferences they attend and facilitate are examples of how this coordinating role is achieved in practical terms. If these attempts at coordination successful it could lead to a decrease in cost to developing countries that is associated with receiving DAH from multiple stakeholders

They have also brought a diverse set of actors together in efforts to develop new vaccines, and been able to create operational links between their partners. Moreover, their co-coordinating role could



have a very positive effect on innovation in the global health field, since, as noted by Van de Ven(1999) notes, firms that “run in packs will be more successful than those that develop their innovations alone”. This means that the Gates Foundation’s approach could be beneficial to both industry and those who require drugs and therapeutics. Hence, the operations of the Gates Foundation could in effect help to decrease the level of confusion regarding policymaking in global health, as discussed by Reich and Takemi(2009).

The Gates foundation has successfully established ties to both public and private actors, and managed to engage a very large amount of actors to achieve their goals and stimulate innovation. Their focus is unusually broad and while concentrating on scientific and technological advancement they are also concerned with institutional arrangements and health systems strengthening. Its operational methods reflect, to a great extent, the systemic view of innovation. However there is an apparent lack of communication. Using gate keepers and boundary spanners more actively to improve the absorptive capacity of the foundation would conceivably give the demand side more say over the priorities of the foundation

It is difficult to overstate the influence of the Gates Foundation. Even though some of the elements of the discussion surrounding fragmentation, and especially the accusations of infringements on the WHO’s territory can be lied to rest, the Gates Foundation remains as one of the very few if not the only organization that can exert significant influence over nearly every major global health initiative, and is free to influence research, spending and delivery policy where ever it is represented by a board member. Thus, as pointed out by one of my sources, regardless of if the problems pointed out by Arata Kochi(McNeil, 2008b) actually happened; the dynamics for such occurrences are still very much in place.

I will now briefly return to the question of transparency and accountability. The Gates Foundation, despite the large amount of information made available through annual reports and its web pages remains fairly nontransparent when it comes to setting priorities and choosing strategies. This is made clear by

several of the interviewees quoted above as well as by the grantee perception report made public on the Gates' web pages.

As noted by several interviewees the Gates Foundation is largely concerned with an inwards accountability; they are largely accountable to themselves and their funders, mainly Warren Buffet and Bill Gates. The Gates Foundation representative also point out their accountability towards the IRS (The Internal Revenue Service). But there is no specific reference to how they might be accountable to the larger community.

The Gates Foundation is of course a private foundation funded with private money; it does not have a board and is in practice controlled by the three co-chairs of the foundation. The Gates Foundation is not obliged in any way to disclose how they set their priorities and any information that they do give to that effect, through their web pages or other media is entirely at their own prerogative. Hence, a demand for transparency and accountability might not hold much weight with the foundation, and one might ask the question why it should. Still, this issue has received some attention in the case of the Gates Foundation. This is presumably a result of the foundation's central position in global health governance, but also because of the influence its vast resources can command. The Foundation is by no means a typical private donor in this respect. Thus, the impact of their strategic priorities stretches beyond their immediate clients and they arguably have a moral, if not a legal duty to be transparent about these.

Nelson and Winter note that "an evolutionary view of what *is* going on in the world of firms and industries strongly influences how one looks at the question of what *should* be going on" and that "the normative economic problem is seen in terms of characterizing the point within the set that maximizes social welfare(Nelson & Winter, 1982 p. 355)". In this context the normative argument of accountability and transparency is justifiably extended to the Gates Foundation. In a sense one could see accountability as only being necessary when things go wrong, but at the same time accountability can *a priori* ensure the avoidance of reckless behavior. Hence, transparency and accountability should be seen parts of the

systemic set up that can ensure the maximization of social welfare through innovative activities. A more open organization whose priorities setting is transparent might also benefit in terms of absorptive capacity

### **6.1 Suggestions for further research**

This thesis has provided a broad overview of the foundation's approach to influence innovation, but much more work is obviously needed. More research needs to be done into the efficiency of communication between the Gates Foundation and its grantees. This will be particularly interesting as it represent a concern for the foundation, and one that they are said to be working to improve. With respect to absorptive capacity it would be interesting to investigate whether, or to what extent, the Gates Foundation utilizes gatekeepers and boundary spanners, and by what means they assimilate and disseminate information.

Similarly, it would be interesting to learn more about the foundations way of utilizing demand as input for decision making. This, however, is closely tied to the foundations willingness to impart information about this process and such a study would be dependent on more transparency.

There is also a need for further research into the effects of the foundation's STI policies, both in terms of dissemination of products but also processes, services and organizational innovations(cf.Lundvall & Borrás, 2005 p. 616). A comparative quantitative study could further our understanding of the effectiveness of their strategies, and perhaps indicate whether the communication difficulties have had a negative impact on innovation.

It seems that the Gates Foundation has been successful in their approach to problems related to the principal agent relationship. Comparative analyses of other foundations would in this respect be interesting, to see whether they employ similar strategies to align their goals with those of their grantees.

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## **8. Appendix**

### Appendix I

#### List of Acronyms and Abbreviations

AMC – Advanced Market Commitment

DAH – Development Assistance for Health

FBOs – Fate Based Organizations

GAVI – Formerly the Global Alliance for Vaccines and Immunisation

MMV – Medicines for Malaria Venture

NGOs – Non-Governmental Organizations

NPOs – Non-Profit Organizations

PATH – Program for Appropriate Technology in Health

PDPs– Product Development Partnerships

PPPs – Public Private Partnerships

The Global Fund – The Global Fund to Fight AIDS Tuberculosis and Malaria

UNICEF – United Nations International Children’s Emergency Fund

WHO – World Health Organization

## Appendix II

Interview Guide for external sources.

Could you please give a short description of your organization, and your role in it?

Does your organization receive funding from the Gates Foundation?

- For what?
- For how long
- How much?

What sorts of conditions are tied to this funding?

- Reporting requirements?
- Dissemination of results?
- IPR
- How are they monitored?

How do these requirements influence the activities in your organization?

How do you communicate with the Gates Foundation?

- How often?
- On what level?

How easy is it to communicate with the Gates Foundation?

- Is it easy to exchange views and opinions?

How has the Gates Foundation dealt with the principal agent problem?

- Incentivizing?
- Adverse selection?
- Moral Hazard?

Are provisions made for capacity building in developing countries?

- Is funding tied to health system strengthening?

What would you say characterizes the policies of the Gates Foundation?

- How do they set their priorities?
- Have they had an impact?

What would you say is the greatest achievement of the Gates Foundation?



### Appendix III

#### Interview Guide for the Gates Foundation.

Could you please give a short description of your organization, and your role in it?

How is funding from the Gates Foundation given to recipients?

- Open/closed RFPs?
- Open solicitation?
- Funding rounds for running of organizations such as GAVI and the Global Fund?

What sorts of conditions are tied to this funding?

- Reporting requirements?
- Dissemination of results?
- IPR
- How are they monitored?

How are the developments in science and technology that the Gates Foundation support translated into products that benefit the end user?

How does the Gates Foundation assess demand?

How do you communicate with the recipients?

- How often?
- On what level?

How easy is it to communicate with the Gates Foundation?

- Is it easy to exchange views and opinions?

How do you deal with the principal agent problem?

- Incentivizing?
- Adverse selection?
- Moral Hazard?

Are provisions made for capacity building in developing countries?

- Is funding tied to health system strengthening?

What would you say characterizes the policies of the Gates Foundation?

- How do you set your priorities?
- Have they had an impact?

What would you say is the greatest achievement of the Gates Foundation?

What are the Greatest challenges facing the global health field?