DO GREEN BUILDING COUNCILS MAKE SENSE? – AN ECONOMIC ANALYSIS

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Summary

Stimulated by the rapid development of Green Building Councils (GBCs) over recent years, this paper asks the question, whether or not such organizations make sense economically. Do they provide a service that is economically valuable to the construction and real estate industry? The answer to this question is of utmost importance also to GBCs, because only when they provide such a service will they be supported by that industry in the long run.

We develop a simple model of real estate developers and investors and identify an information problem between them that locks them into a prisoners' dilemma (often called "circle of blame"). This seems to be an important factor that can explain the current popularity of GBCs as well as the strong involvement of industry in these initiatives. The model also allows us to apply some concepts from institutional economics in order to derive additional results for the organization of GBCs. Most importantly, only when they choose to provide instruments for overcoming the prisoners' dilemma deadlock will they be valuable for industry and thus be able to secure its support in the long run.

Keywords: green building councils, governance, economic incentives

1 Introduction

Greening the construction industry has become big business recently. The World Green Building Council, a NGO located in Toronto, Canada, lists 59 organizations worldwide in their "Green Building Councils Directory", 19 of them in Europe. That the development is relatively recent, shows the breakdown of these organizations by organizational status: About one fourth of them (27.12%, 16 councils) have achieved the highest organizational status, "Established GBC", 8 GBCs (13.56%) fall into the second category of "Emerging GBC", 21 GBCs (35.60%) have the status of a "Prospective GBC" and almost one fourth (14 organizations, 23.73%) fall into the category of an "Associated Group", supposedly hoping to advance to a higher level of status soon.

Although they pursue quite different aims and strategies, their activities can be broadly categorised into three areas: (1) Promotion of sustainable construction and building awareness of the issues of sustainability; (2) Lobbying for building codes and policies that support sustainable buildings and sustainable development in general; (3) Identify best practice examples through the application of sustainable building rating systems.

As non-governmental organizations the GBCs are typically engaged in voluntary activities rather than governmental regulations and dependent on the support of a member base.

This paper deals with the question of what economic function such organizations fulfil. How can these organizations generate sufficient support from industry to finance their activities? We apply economic theory to answer these questions. In the next section we will develop a conceptual framework that will allow us to approach the above mentioned questions more systematically. In section 3 we will turn to the economic literature in order to apply it to the conceptual framework. The usual concluding section is dropped due to space constraints.

2 Sustainability in Construction: A Conceptual Framework

2.1 Sustainability in buildings

In this short paper we cannot engage in the distributed task of defining sustainability nor do we have the space to review the respective literature. In our view it is sufficient, however, to just note two things. First, in whatever way we define sustainability, buildings and our built environment in general are an important element of that equation. The reason for this is mainly the long life cycle of buildings on the one hand and their basic function of sheltering people from weather and extreme outdoor temperatures. Both aspects together imply that decisions that are made in the construction industry today potentially have a long term impact on energy consumption, emissions and people's quality of life. Second, in whatever way we define sustainability, it implies a higher quality of building, where this quality can only be achieved by investing some resources. The main point here is that our buildings usually are not sustainable per se, and that explicit attempts have to be made to move them in that direction.

These two points together portrait sustainability in buildings as an investment decision problem with (relatively) certain expenses today and (relatively) uncertain returns (not only in financial form) in the future.

2.2 The relevant actors

Concerning the economic incentives for the investment it is important to know who the actors are who bear the costs and who enjoy the returns. In the reality of the real estate market this can become very complicated. It is well known that a whole development team is needed for the construction of a building (e.g., Miles et al., 1995). Since each of these team members pursues his/her own economic benefit, the developer whose task is to coordinate the development team may face a substantial principal agent problem. Although this is an important problem for the quality of buildings, we will concentrate in this paper on the period when the building is used. Over that period, the building may be owned by any number of actors who may or may not be identical with the users. Depending on the specific circumstances there may be explicit or implicit rents paid by users and prices paid for ownership transfers.

2.3 A drastically simplified view

In order to be able to deal with the research question at hand, we drastically simplify the situation sketched above and consider only two types of actors: developers and investors.

In this simplified world, developers construct buildings and make all the relevant decisions. Their decisions determine the "quality" of the buildings in our context in the sense of a "higher contribution to sustainability". Investors, on the other hand, buy buildings that have been constructed by developers. The motivation of both groups of actors is to make profits. In the remaining part of the paper we will look at developers and investors on order to search for the economic rationale for the existence of GBCs.

The important aspect in the relationship between developers and investors is that although a developer determines the quality of a building by the decisions he/she makes, this quality is not directly observable to investors. It is embedded into the construction and becomes transparent only over time. So, there is an information problem of the type that has been described, for example, by Akerlof (1970) in his argument of the market for lemons. In the next section we will deal with this information problem, its consequences and governance strategies for avoiding them

3 The information problem and its consequences

3.1 The circle of blame

The above mentioned information problem that investors cannot observe the quality (in terms of its contribution to sustainability) of a building with certainty, leads to the following situation: developers have to decide whether or not to invest the extra resources to develop a good quality building. If they decide in favor of that, they will make the claim to the investors that the building is of good quality and request a higher price. Because of the information problem, however, the developer cannot proof that claim. The investor, on the other hand, faces the claim of good quality and the request for a higher price, but knows that not all the claims are correct. Some developers may be cheating and try to get a higher price although their building is actually only of standard quality. Therefore, developers and investors will find themselves locked into a prisoners' dilemma situation: The investors will not be willing to pay the full price markup that is economically justified for a good quality building because of the chance that he/she will not get the product quality he/she has paid for. Because of the lower price markup the developers, on the other hand, will not be able to reclaim their extra costs for developing a good quality building and will therefore not be willing to build good quality buildings. Although both sides would economically benefit from good quality buildings, they will not come to the market, because developers do not want to produce them and investors do not want to buy them. This prisoners' dilemma is the game theory based version of the "vicious circle of blame" that is mentioned in various presentations and leaflets (e.g., Keeping, 2000) and commonly attributed (without precise reference) to D. Cadman.

3.2 Can GBCs help overcome this deadlock?

Game theory shows that such prisoners' dilemma situations cannot be overcome by the actors alone. Although all actors know that another state of the system would be preferable for them as well as for society in general, they are trapped in the current situation by their individual economic incentives. Therefore, some outside intervention is needed to overcome this situation. It is interesting to note that since in such a situation the actors would benefit economically from a resolution of the prisoners' dilemma, they may actually request and support such an outside intervention. This observation actually allows us to

answer the second research question that we have stated in the introduction: how can GBCs generate sufficient support from industry to finance their activities? If GBCs can develop the tools to resolve the prisoners' dilemma, the actors who are locked into this situation will in principle be willing to support their activities. Whether or not this support will be sufficient, is a matter of details. Additionally, this observation also explains why the construction and real estate industry is a major driver of GBC developments in many countries.

What economic governance actions do GBCs have to implement in order to fulfil this role of breaking the prisoners' dilemma deadlock? Avinash Dixit discussed this at a general level in his 2009 presidential address to the American Economic Association (Dixit, 2009). He classifies methods of private governance of contracts into first-party, second-parts and third-party systems. "First-party systems operate on the potential cheater's own internal value system" (Dixit 2009, p. 10) and are therefore not able to overcome the deadlock between developers and investors. Second-party systems include "repeated transaction between a given pair" as well as "multilateral enforcement among a community of traders" (p.12). GBCs as separate institutions fall into the third category: third-party systems. In Dixit's classification this are institutions that "provide governance by outsiders who are not direct parties to this class of transactions" (Dixit, 2009, p.14).

However, not all the above mentioned typical activities of GBCs fall into this category. Neither promotion and awareness building nor lobbying for stricter building codes by themselves can change the business relation between developers and investors or reduce the information problem in their transaction. Only when GBCs get involved in rating specific buildings can they change the fundamental conditions of the transaction between developer and investor. This additional information will make the claim of the developer more trustworthy and encourage the investor to pay a higher price. Eichholtz et al. (2009) have shown that rated buildings are indeed traded for higher value in the market. For GBCs this implies that only when they provide such a service that allows developers and investors to overcome their prisoners' dilemma deadlock they will be supported by industry in the long run.

In closing we would like to point specifically to one point made by Dixit (2009, p. 15): "Honesty of these third parties is not automatic". GBCs need to develop mechanisms that protect their integrity and separate them sufficiently well from the parties involved.

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