China's influence in Africa, implications for the West

Today it is generally acknowledged that the conditions for Africa's development have dramatically changed over the last years. The continent's original dependency relationship with the USA and especially Europe has been traded in for a relationship with another economic and political alternative: China. For the last 10 years, China's appearance on the continent of Africa has grown to surprising height. With help of the government in Beijing, numerous Multinational Corporations (MNCs) are racing through the continent in search of possible contract closures and deals for natural resources. The Western hegemonies, the US and Europe, notice their influence in many African states is declining more and more. The main question for them is what strategy could be applied best in anticipation of the Chinese rise in Africa. By applying literature review on published articles on this topic, I shall try to answer this question.

First, an overall view on the current situation in Africa concerning the rise of China will be given. Then I shall discuss the strategy Beijing uses to develop their influence, and what strategies to gain influence the Western hegemonies have applied so far in Africa. Furthermore, I will show what the Western point of view is on China's appearance and give possible strategies on how to deal with this emergence. Also, with the help of a simple model on the appropriation of natural resources by Crutzen and Holton (2010), I will show what strategy would be optimal for 'the West' to behave like in the scramble for resources with China. My aim of this research is to give a clear overall view on 'the fight' between the world's largest hegemonies about who will get the biggest share of resources.

The appearance of a new player on the African continent

Since 2000 there have been several summits of the Forum for Chinese - African Cooperation (FOCAC), bringing together more than 1500 delegates from China and Africa under the motto 'friendship, peace, cooperation and development'. Probably the most important summit held, was the Beijing Summit in November 2006. Most of the 48 African states invited by China to join the summit, were represented by their head of state or government, which showed the expansiveness of China's step to accomplish cooperation. The rest of the world could only watch from a distance how the Chinese and African leaders celebrated their strategic partnership with shows of Chinese acrobatic troupes and African drumming exhibitions[1]. The agreements made, defined the goals and principles which formed the basis of the intensive exchange and cooperation. The delegates made a three-year plan concerning several commitments of both parties. The Chinese leadership announced a widespread package of concrete investments and development aid. This package contained an amount of three billion US dollars favorable credits, as well as preferential credits for the purchase of Chinese goods to the value of two billion dollars. Adding to this, China committed it would double the development aid for Africa by 2009 and it would increase the trade volumes with Africa to 100 billion dollars by 2010. On the summit itself, Chinese firms and African government officials closed deals for investments worth up to two billion dollars. Meetings at multilateral settings like the UN and the World Trade Organization led to promises by China to invest in African agricultural development, training programmes and more support for health and educational services[2].

This Beijing-summit could be seen as the introduction of the rise of China's appearance and influence in the continent of Africa. The presence of Chinese Multinational Corporations on a greater global scale, changed the original international business and political landscape. The natural resources and under-exploited markets in Africa served to be a proving ground for these MNCs. The Chinese state supported them in being highly competitive in capturing the key resources and market shares across the continent. Moreover the MNCs developed themselves as influential corporate players. Since the formation of the People's Republic of China (PRC) in 1949, China ejected all Western multinationals, starting a period of 40 years of self-imposed isolation from the global economy. During this period some very large companies, most of them in the energy, construction and mining industry, arose. It is those kind of firms which are the typical multinationals now entering the African continent. What is meant by typical in this case, is the fact that their business model is heavily depending on political support and financial backing by the state. The Chinese government chose about 180 companies who could count on preferential finance, tax concessions and political support to 'go global'.

These multinationals apply all kinds of business strategies. One of those strategies is to secure resources and commodities by backward and vertical integration. Examples of this can be found in states like Sudan and Angola, where the acquisition of up- and downstream assets in the oil industry took place. A different strategy is the closing of partnerships and joint ventures with Western and non-Western firms. This way the MNCs get access to technological and managerial gains of the more developed countries, but also gain access to possible inroads into the political establishment of countries which China has only some degree of cooperation with.
As result of China's booming economy, particularly the energy giants are being supported by the Chinese government[3]. Though China consumes mostly coal for its energy needs, it is the second largest user of oil in the world. Currently only the United States (US) are consuming more oil then China (counting all European states as one would drop China to the third place). In 2008 China imported 3,8 million barrels per day[4]. The International Energy Agency estimates this import will grow to 13,1 billion barrels per day in 2030. This shows China's urgency to secure and control the energy supply which will be definitely needed in the coming decades. In 2008, China received about one-third of its total oil supply from Africa, coming from African countries as Angola, the Republic of Congo and Sudan.
Bringing these oil-contracts in, sometimes takes the Chinese MNCs to make smart deals with the concerning head of state or governments. A good example is the case of a large oil block in Angola. An Indian state-owned company thought it had secured a deal to lease this oil block, but in the last minutes the deal was canceled, and the rights were transferred to one of China's largest oil companies, Sinopec. It turned out the Chinese government had offered a 2 billion dollar loan to the Angolan state, which would free Angola of its reliance upon the IMF. This was not all that was offered, but there was much more. Beijing would reconstruct Angola's poor infrastructure, including a half a billion dollar worth railroads, a new airport and the building of a new refinery in Lobito. The package would entail finance, Chinese expertise and labor inputs. Similar deals can be found in many other African states. In Nigeria it took the Chinese a pledge of a 7 billion dollar investment, the rehabilitation of two power stations and the willingness to sell arms to the Nigerian state for the use in the troubled Niger Delta, to get to a deal. In more regulated environments, like South Africa, the approach used by the Chinese MNCs is different from the way deals are closed in lesser developed African states. Here the agreements made are the product of long and detailed negotiations that are in conform with international legal norms and responsibilities. In those cases the MNCs seem to be aware of the different role they have to play, dealing with the more developed parts of the continent[3].

China's ways of contracting mentioned so far are not the real causes of the heated controversy that

arose in the Western world. Those discussions are based primarily on the well known examples of contracts closed with African states like Sudan and Zimbabwe. For the last 15 years Chinese oil companies have been active in the south of Sudan. They created a whole modern export industry. In 2005 they already accounted for 50% of Sudan's total oil export, which formed 5% of China's total oil import. This relationship with the government of Khartoum was not appreciated by the Western world. While the US, Europe, Japan and other Western democracies wanted to impose UN sanctions against Khartoum for long perpetrated genocide in the region of Darfur against the non-Muslim population, China shielded the Sudanese government for a while with its position in the UN Security Council. This shielding has played a big role in sustaining the relationship, which was widely criticized by the other developed nations, and shows Beijing was far less critical of Khartoum than the rest of the world[5]. In reaction to what was observed as lack of concern for political volatility in Africa by the Western governments, the Chinese Foreign Minister Wenzhong gave the following statement in an interview in 2006: "*Business is business. We try to separate politics from business. Secondly, I think the internal situation in the Sudan is an internal affair, and we are not in a position to impose upon them.*" [6] This consensus is favored by African leaders. They will resist Western policy aimed at economic or political reform of their regimes, and reach out for the non-interference in domestic affairs and the promotion of sovereign integrity China offers. The attractiveness of the Chinese development model, which enables good development opportunities without the single-party system of the African state being challenged, is undeniably appealing for the African leaders.[2]
The same deal of attention went to Beijing's relations with Zimbabwe's long time dictator Mugabe. Most developed countries have taken hard sanctions against Mugabe's regime, but Beijing seems to have embraced his leadership[5]. The isolation from the West has caused Zimbabwe to implement a 'Look East'- policy, leading to an even more intensive exchange cooperation with China. Besides buying the countries total tobacco export, China has sold military vehicles for 200 billion Dollar to the Mugabe government. It is clear Beijing does not adapt its strategies by conforming to the international sanctions[7].

The speed and ease with which China seemed to spread its presence in Africa can be ascribed directly to this approach towards African governing elites. This 'no conditions'-policy has led to admiration within African circles towards China, but on the other hand caused heated controversy in the Western world. The foreign policies of both parties, differ in many ways[2]. Beijing handles one central concept in its foreign policy, a concept which in the West is often smiled at: the striving for a harmonious world. China believes the best way to ensure its access to raw materials and markets is through maintaining harmony with all states it cooperates with. This implies keeping friendly contacts and conflict avoidance at international level[1]. This policy started back in 1953, used to strengthen the relations with India, and now seems to work in establishing the links with the continent of Africa[8]. For the sake of the harmonious cooperation, the Chinese government believes that the international community must hold on to ‘five principles of peaceful coexistence’:

1. Mutual respect for sovereignty and territorial integrity.
2. Mutual non-aggression.
3. Mutual non-interference in internal affairs.
4. Equality and mutual benefit.
5. Peaceful coexistence.

It is against this background that the Chinese perception of foreign policy must be seen. The cooperation between China and the African states differentiates itself from the West by non-interference. The criticisms of the Western states that China is undermining development efforts, meet with incomprehension. China sees itself as a model of economic advancement and national emancipation. Even if their policy of ‘win-win relations’ for both parties would have some weak points, Beijing thinks it still is a better policy than the West’s wobbling between interference and disinterestedness[1]. When the West shows increasing interest in the relations between African states and China, suspicions often rise in Beijing. China’s feeling is described very well in the research of Hofmann et al (2007). When, for example, China invests in the raw materials sector in Australia, does Europe show any interest? But in case of a similar investment in Africa on the other hand, China’s actions are scrutinized minutely.

Unlike China, Europe has a long and very influential history in Africa. The Western countries itself are the ones who created a continent consisting of great diversity and complexity in systems. In the period of colonization, European powers divided Africa into various parts in the scramble for land and resources. This effort still has its destabilizing effect on Africa today[8]. The relation between Europe and Africa after the period of transatlantic slave trade, has been characterized by periods of European plunder, war and destruction. One of the most dominant statesmen in the late 19th century, the German chancellor Bismarck, once said: “He who controls Africa will control Europe”. This phrase represents the chauvinist ideas which later were to be connected to the misdeeds of the imperial partitioning of Africa. In the race for African gold, copper, cocoa and rubber, Britain and France fought major wars of occupation. Moreover, to ensure the profitability of the European settler farms, mines and factories, a system of apartheid was introduced. Each Western nation had its own vast and diverse relationship with the land they conquered. Those relationships were mostly characterized by exploitation and abuse of power, and left the African nation very often with more problems than it solved[9].

From the end of the Cold war the US also joined the tussle over who controlled Africa. They saw an opportunity to close military and commercial partnerships with a number of African states while the Western imperialists where fighting for political dominance. To make a direct link with African entrepreneurs, the US made formal agreements through several acts towards the end of the 20th century. The Bush administration, and the Clinton administration as well, wanted to redefine the relationship between the US and Africa. The new relationship would be a "mutually beneficial partnership based not only on common interests, but also mutual respect". In its reaction to the US's change of policy, the European Union reckoned it also had to come up with its own agreements and policy. So, shortly following the US, the EU established several agreements with the African Union, all containing EU's wishes for improved relations with Africa on financial budgetary support, coordination and coherence. The appearance of yet another force, namely China, complicated the fight over who controlled Africa between the EU and the US even more. The US felt that China's growing influence was obstructing them to act on issues like terrorism, the need to find natural resources outside of the Middle East as well as armed conflicts and humanitarian crises. The baggage the EU has to carry from its colonial history, still is a wedge for the cooperation with African states. The EU finds it difficult to adjust to the realities of globalization. It is clear that the EU struggles to re-define its interest in a credible way abandoning the charity approach to Africa, which has been a key feature of its policy towards Africa for a long time.

The Western non-governmental organizations (NGOs) also experienced the upcoming of China in the continent of Africa. These NGO's find the growing presence of China very troubling. Born in the post-Cold war environment, their actions in Africa are based on the basic values within the society, the promotion of democracy, and respect of human rights. For NGOs these driving concepts are not respected by China, who commands significant resources and intends to ignore the NGOs agenda completely. For these NGOs to anticipate quickly on China's movement is very difficult, mostly because China's rise in Africa came quite unexpected. The NGO's have focused for decades on the Western dominance in Africa, and consequently, all its attention went to the position of engagement with Western and African government on development issues. From this point of view it is not hard to see why they find China's appearance so disturbing[2].

The Western view on China's appearance

The fast emergence of China as a dynamic player in Africa, and the roles it plays on the continent, has led to strong public criticism in the EU. Since 2006 there has been a bilateral EU-China dialogue on Africa, but the suspicion from both parties about hidden agendas of the other has done this relationship no good. After the Beijing Summit in November that year, the West understood the importance of the meeting for Africa, China and for Europe itself.[10] The German Chancellor Angela Merkel gave a very clear comment: "We Europeans should not leave the continent of Africa to the

People's Republic of China… We must take a stand in Africa." [12]

The NGOs and intergovernmental organizations, in particular the OECD and the World Bank, have worked decades to convince the Western governments and corporations to constitute a policy which supports development and investments. This is built on principles of good governance and transparency, looking to intensify links with like-minded African governments. But now with China around, which openly preeches its 'no-conditions'-policy, the NGOs do not have the same influence as with the West, as they are not able to put pressure directly on the Chinese government[2]. Western industrialized countries disapprove on several points with China's policy and method of closing deals. Hofmann et al (2007) mention these European perspectives one by one. The central point of criticism is China's abandonment of imposing any political conditions when awarding aid and credit. In contrast to other developed countries, China imposes no conditions on the recipient country regarding its adherence to international social and environmental standards. Like discussed above in the example of Sudan, this sometimes concerns states which also undermine the human rights policy of OECD states. Another point of criticism from the West is the lack of transparency. Data on China's foreign aid payments are not available and hard to quantify. Beijing does not release or explain this data, and much of the aid does not appear to be accounted for in the scholarly literature on foreign aid. Compared with develop grants, the primary form of assistance provided by the Western countries, China only plays a small role in global aid. But if all loans and subsidized investments in the African states are counted as foreign aid, China becomes a major source for the continent[11]. The OECD countries also have reservations concerning China's regional strategy, which Hofmann thinks is primarily directed towards raw material extraction like oil, wood from tropical forests and diamonds. Very often the exploitation of these sources are unregulated, contributing to bad governance. Moreover, the income from illegal sale of these materials is often pumped into war economies, increasing the risk of armed conflicts. In addition, China has for years been the second biggest supplier of arms in Africa. In the OECD's view, such economic relations could endanger the regional stability and the safety situation on the continent. An extra point of criticism from the West is the growing influence China gains in international organizations like the UN. This is caused by China's 'charm offensive', which ensure agreements from large blocks of African states, and thereby increasing its influence. Finally, what is also looked at with skepticism, is the extent to which the African states are choosing the Chinese development model instead of the Western models.

In the US, different opinions exist on how the US should view the Chinese growing influence in Africa. This debate concerns mostly China's oil production, because if there were to be a threat, it would be on this issue. One group is concerned that China is contracting more and more African states to create a global oil supply, which leaves less oil available for the US. Others minimize this threat and do not consider China's pursuit as alarming. They mention that nations from all around the world are joining the search for opportunities of the African markets and sources of energy. This could in fact work positively in increasing wealth and stability on the African continent. The fact that China's is delivering investments and arms, is not seen by these observers as a new way of trading, but rather as business as usual. It would be naïve to complain about China on this token as the US itself used to provide arms and military assistance to oil supplying trade partners in Africa for years. However, China's support to regimes cited for human rights violations, like Sudan, should not be excused for[5]. As mentioned, these quite positive opinions are not shared by all US policy makers.

The other group of observers certainly see a dark side to China's expansion. Their concern is that the Chinese assistance to African dictators in its race for resources, undo many years of hard work promoting democracy and good governance in the continent[13].

Another big concern, pointed out by Marson (2008), is the current disequilibrium in the US-China balance of payments. This issue consists of the possibility of the Chinese blackmailing via currency reserves in the context of the international competition between the two hegemonies. China will try to maintain the rising power it has, and this can only be achieved by continued economic growth. Marson thinks it is possible to foresee a future where the US and China are at odds, caused by key factors like nationalism and anti-Americanism depending on actions taken by the US. He reckons that as China is acquiring more and more US securities, it has an increasing ability to destabilize US financial markets. Moreover, as China's raw material import grows, leading to an increasing competition between the hegemonies, Africa is strategically placed to feel the reverberations of this relationship. In the hypothetical case that China feels its MNCs are steadily pushed out of Africa by American firms, Beijing could trigger a crash in the US stocks and bond markets. These complex issues must be examined closely, to ensure that Africa's opportunity for growth is not obstructed.

Possible strategies for creating more influence on China

Unlike the EU-states, the US is very focused on safety of its oil supply, just like China, and less on the development issues and the respecting of human rights in the African states. Though, the US does understand that to create a stable oil supply, it has to offer Africa economic encouragement and support. The Western hegemonies have a difficult task of finding the right strategies to keep a dominant influence on China.

Marson sums up several strategies how the US can best interact with China to ensure successful engagement with Africa. He reckons that the US can definitely have a say in what happens in the future. To start with, Marson suggest the placement of one or two persons dedicated to the activities of China in their area, in every embassy on the continent. This will allow the US to get a good picture of the strategy followed by the Chinese government and corporations. Also, the US government become more pro-active in pursuing its business interests in the economical less wealthy African states. This means replacing the Laissez-faire business practices the US sometimes gets accused of having, by more and deeper assistance where necessary. This is actually the strategy China has been using, with positive results, so why should the US not also walk this path? Most of the African states seem to prefer it. Moreover, Marson thinks the West must 'think like the Chinese', every action must be understood through the eyes of the Chinese. However, this thought is only to some extent applicable, as in the end the Chinese will do whatever is necessary in their self-interest to maintain economic growth. The West should not be so pragmatic to drop its own democratic ideals in search of economic gain. The West's goal should be to assist the African states with democracy, without interfering in internal affairs.

Marson finds it important to understand the issues that affect both the US and the African nations. ON quite a few issues, like the devaluation of the Chinese currency, imports and exports the have converging interests with regard to China. The US could join the African states in finding the best strategic solution in dealing with these issues. In addition, next to rewarding the well-performing African states with more support, the USA could also develop innovative arrangements for US companies to compete with the Chinese MNCs.

The recommendations mentioned above are examples of how the Western hegemonies could improve their influence in Africa. China will do whatever is needed to be done to keep its expanding grow on track. It is clear the West has to come up with long-term approaches to balance this Chinese strategy. In the next part of this research I will show what strategy in the scramble for resources would be optimal for the West with help of a model.

Model Natural Resource Fragmentation and the Wealth of Nations

So far I have viewed the Western problem with China's appearance mostly from a international political perspective. This situation, seen as a global issue, could also be studied from a game theoretical kind of view. I will show with help of different models how this problem, or game, could optimally best be solved. This model will be a very simple game, based on many assumptions.

I will use the model of Crutzen and Holton (2010). Consider an economy which is populated by $g \geq 1$ groups. For the case of simplicity we assume that these groups are all identical, so none of them is bigger, stronger or more influent than the other groups. These groups will 'fight' each other for input, or in this case, natural resources. Of course, 'fighting' is in this case a metaphor. I mean the conflictual activities between the parties that need not involve actual violence.

To enjoy utility, each group can consume its own, group-specific, income. There are two ways to derive this income; one is the appropriation of natural resources, and the other is by the production of a nationally produced consumption good. This good requires only labor as input and each group has just one unit of labor to spend. This way they will have to choose how to spend their labor, either in resource appropriation or in the production of the consumable good. There are $r \geq 1$ identical natural resources in this world, which give a total net value of R(r). This resource base, r, is independent of the parties' actions, meaning that the fight for those resources will not influence the extent of this base. Crutzen and Holton assume $\partial R/\partial r < 0$ to allow for economies of scale and scope in resource extraction. They reckon that for any given value of the total natural resource endowment of the economy, an increase in the fragmentation of this pool leads to a decrease of the final net consumption value of the resource base. This becomes clear when the resources are very fragmented, because then the costs of extraction and exploitation are higher, unlike a less fragmented resource pool.

We will let the share of resources group g devotes to resource appropriation be given by A^g. This A^g is established through the following standard contest success function:

$$A^g = \frac{(e^g)^m}{(e^g)^m + (g-1)(e^{-g})^m} R(r)$$

Here e^g indicates the share of labor group g assigns to resource appropriation. The share of labor devoted to resource appropriation by the other groups in this world, given as (g-1), is indicated by e^{-g}. The decisiveness parameter m is applied by Hirshleifer (1995). He explains this parameter by giving an example of a military struggle between two parties. When in war, parties can choose to apply a defensive strategy or on the other hand perhaps a very offensive strategy. In this case a low m would correspond to the defensive strategy having the upper hand. The higher m, the more offensive the war strategy would become. In our model the groups can only decide how much effort they would want to put in the appropriation of resources. We assume that $m \geq 1$. This means that providing more effort than all the other groups will leave you with a higher payoff in terms of the share of natural resource appropriated.

The production function of the consumable good P is given by:

$$\mathrm{P} = \sum_{j=1}^{g} (1 - \mathrm{e}^{\mathrm{j}})$$

and the distribution of this good to each group is a share of $\frac{P}{g}$.

Now that we have functions for both the appropriation of resources and the production of the consumable good, it is possible to show the problem each group has to solve:

$$max_{e^g} \; A^g + \frac{\sum_{j=1}^{g}(1-e^j)}{g} \quad \text{s.t. } A^g = \frac{(e^g)^m}{(e^g)^m + (g-1)(e^{-g})^m} R(r)$$

Each group has to choose its allocation of labor to resource appropriation and the production of the consumable good in such a way that the return on effort provision across these two activities are equalized. The problem's first order condition will be:

$$\frac{m(g-1)\,(e^{g})^{m-1}\,(e^{-g})^{m}}{[(e^{g})^{m}+\;(g-1)(e^{-g})^{m}]^{2}}\,R(r)=\frac{1}{g}$$

Crutzen and Holton state that in a symmetric equilibrium, each group will devote the same amount of effort to the appropriation of natural resources: $e^{g}* = e^{-g}* = e*$ (with the parameter values assumed to be such that e* ∈ $[0; 1]$). Knowing this, and using the first order condition the following proposition can be derived:

In the symmetric equilibrium:

1) Each group's effort in resource appropriation is equal to $e^{*}=\frac{m(g-1)}{g}R(r)$

2) The economy's total output is equal to Y* = $[1+m(1-g)]R(r)+g$

3) Each group consumes: C* $=\frac{\mathrm{Y}^{*}}{\mathrm{g}}=\frac{[1+m(1-g)]R(r)}{g}$

Differentiation of the group's effort in resource appropriation gives the following proposition:

- $\frac{\partial e^{*}}{\partial r}=\frac{mR(r)}{g^{2}}>0$; Which shows an positive relationship between the number of groups and the equilibrium level of labor assigned to resource appropriation.
- $\frac{\partial e^{*}}{\partial r}=\frac{m(g-1)}{g}R'(r)\leq 0$; Which shows an negative relationship between the number of resources and the equilibrium level of labor assigned to resource appropriation.

These relationships can been explained without difficulty. The positive effect of the number of groups on e* is not hard to understand. The return to labor in the sector of the national consumable good was defined by 1/g. Thus with an increase in the number of groups in this economy, the relative cost of investing labor in the production of this good will also increase, or in other words the return will decrease. Knowing this, it is not strange that the more groups there are in this model, the stronger the incentive will be to focus more on the appropriation of the natural resources.
The negative effect of the number of resources on the level of labor devoted to the natural resources is also straightforward. The intuition is that for an increase in r, the costs of extraction and exploitation of the resources also increase, which will lower R(r). Because of this decline in the return of resource appropriation, all groups have an incentive to shift their labor from the appropriation of resources to the production of the consumable good.

Having explained the model, we can solve it for the situation of the scramble by China and the West for resources in Africa. First of all the model and equilibriums have to be solved for 2 groups, instead of g ≥ 1. After this we will see what happens when one of the parties devotes less, or maybe even none, labor to the appropriation of natural resources.

Although in the real life situation there are three main parties, namely China, Europe and the USA, we will solve this model for g = 2. Though it is possible to apply the situation of g = 3 on this model, for case of simplicity we will view Europe and the USA as one: the West. The share of resources each group appropriates for its own consumption could be found by the A^g function. Filling g = 2 in this function gives:

$$A^g = \frac{(e^g)^m}{(e^g)^m + (e^{-g})^m} R(r)$$

The decisiveness parameter stays the same; m ≥ 1. The model showed each group received a share of $\frac{P}{g}$ of the produced consumable good P. Knowing g = 2 tells us both parties get $\frac{1}{2}$P.

In a symmetric equilibrium, every group makes use of the same level of effort e*. With g = 2 this effort will be: $e^* = \frac{m(2-1)}{2} R(r) = \frac{1}{2} mR(r)$

Having these functions solved for two groups, China and the West, it is possible to create a situation concerning different amount of shares unit of labor each group devotes to resource appropriation. We let a game arise in which one group, here the West, will put no effort in the appropriation of natural resources at all. We will state e^g as the share China devotes and e^{-g} as the share the West devotes, with $e^{-g} = 0$. Knowing the share of the unit of labor each party devotes to resource appropriation, it is simple to find out how large the share of the resource will be for each group. If we fill in A^g, we get:

$$A^g = \frac{(e^g)^m}{(e^g)^m + 0} R(r) = R(r)$$

Clearly in this situation China would not only get a bigger part in the share of resources, but would even get the whole resource pool for itself.

With this model it is possible to show what the best strategy for each group or party would be in different cases. The game gives the opportunity to analyze the combinations of labor effort each group devotes, and gives the outcomes linked to these combinations. I will show what strategies the West could use against the rise of China, and which of these would give the optimal solution.

We apply this model to a situation in which we have two parties, namely China and the West. It is important to notice that this analysis does not consider the existence of a third party, like a government, who stands above the other two groups as a enforcer of claims to property. This means here the two groups coexists in what Hirschleifer (1995) calls a state of anarchy. He defines anarchy as 'a social arrangement in which contenders struggle to conquer and defend durable resources, without effective regulation by either higher authorities or social pressures'. In situations in which the claimants to property are groups like tribes, or in this case nations, there are usually no third parties interfering in enforcing claims to property.

In this game two groups have to decide how much effort they will devote to the appropriation of a natural resource. In the case of the scramble for Africa's resources, the same thing happens. China and the West are both trying to get a hold of the best resources Africa has to offer. Of course in reality Africa has not just one kind of natural resource to offer, it offers many more resources like oil, wood from tropical rainforest and diamonds. Though because today oil is by far the most desired resource by all the hegemonies, we will assume that oil is the only natural resource Africa possesses. Both hegemonies have to choose how much effort they are willing to put in this race for oil, and how much effort they would want to spend on the production of the consumable good, or in this case effort on everything but the appropriation of oil. Like mentioned before, I assume the 2 groups fighting each other are identical. Of course in reality Europe is far less powerful than China, and also has a difficult task to act as a union although it consist of many small and diverse states. Even the US, being a hegemony itself, has problems competing with the Chinese. That is why I formed the two Western parts into one big organized group, to better compete against China.

Assuming the existence of the 2 groups, the model gives a symmetric equilibrium. In this equilibrium every group makes use of the same level of effort e^* in the appropriation of oil. With $g = 2$ this level would be $e^* = \frac{1}{2}mR(r)$. Because of this equal amount of effort, and the fact that the groups are identical in power, they both get the same share of the oil resources. In this equilibrium it would simply be half of the resources for each party. This equilibrium would be stable as long as the decisiveness parameter m would not change. But in reality the decisiveness by each of the groups is clearly not the same. China is trying much harder to get an as high as possible share of the oil resource Africa possess than the West is. Like the literature review states, this is exactly the problem the West is struggling with. How can they effectively compete with China? And how can they compete in a way that is conform with their moral principles? With its no-policy approach towards the African leaders, especially in states like Zimbabwe and Congo, China can more easily get hands on contracts compared to the West. Their approach is built on principles of good governance and transparency, and uses criteria like social and environmental standards in closing deals. Clearly such criteria creates incentives for the African states to turn to China, and not to the West. In the model this difference in approach of closing deals is given by the difference in effort each group devotes. If the Western world refuses to work with countries which cannot assure they will meet the high demands of the standards set, it has simply less states to deal with. Or viewed from the other side, China simply creates more partnerships without the Western moral standards set. Applying this fact to the model shows this is profitable for China. The share of benefits of the appropriation of oil is given by: $A^g = \frac{(e^g)^m}{(e^g)^m + (e^{-g})^m} R(r)$. The effect this has on China's share is not difficult to understand. Clearly e^g rises because of China's no-policy approach, and e^{-g} declines because of the Western moral reasons for not dealing with certain African states. The result is that China's share of the oil resources grow more and more.

In the situation described above, China will eventually get all the oil supplies of the continent of Africa. If the West truly believes that the cooperation with dictatorial leaders of some African states will only worsen the economical circumstances in Africa, it has to come up with action to counter this Chinese movement. What is clear from the literature review, is that the West makes it look like the development of Africa is all she is concerned about. If this is really true or not, does not really matter in this case. The model described above gives quite simply the answer to what the West should do to achieve this vision of development of the African continent. Obviously when they won't trade with Africa, China will. And when China does, in their opinion Africa will we be harmed in the process of development. So the optimal thing for the West to do is: play the game. They should put at least as much effort into the appropriation of resources as China does, maybe even more. The more effort they devote, the larger the share in resources. If their intentions of creating economical development in Africa are real, they could use the returns of these resources to give back to the African people. This could be in form of development programs or aid or any other way which would support the economical and democratic development of Africa. Moreover, if the West thinks their cooperation with the African states is more helpful for the continent than the China-Africa trade, it should also try to replace the Chinese cooperation for its own, and help the African states even more. So the optimal strategy for the West is not to walk away from the states with less democratic leaders, but instead try to get an even bigger share of power in those countries. And when it achieves this power, it could help the nation and its people the way they think is best.

Conclusion

The complex picture of the Western and Chinese relations with Africa shows dilemma's for all sides.

Since the appearance of China, both the US as Europe are struggling to find the best strategy for saving their influence on the continent. With the help of Beijing, the Chinese MNCs are rapidly moving from state to state, in order to close the biggest and most profitable contracts with African leaders. China promises large investments and aid, but most importantly, it separates politics from business. It will not interfere in the internal affairs of African states, but is focused primarily on the expansion of their resource supply. This form of cooperation is the opposite of what the Western hegemonies think the approach should be. They struggle to adapt their policy in the context of ethical concepts. Especially the EU carries important baggage from colonial history, and now has to adjust their policy to the realities of globalization. The West has found it hard to re-define its interests in a credible way, and to step away from the charity approach to the continent. The model of resource appropriation gives the answer to the question of what strategy would be best for the development of Africa. This strategy should be to enter the fight for resources and to get an as large as possible share of the oil supplies. If their intentions of helping Africa are honest and true, they should use the returns of these resources for the aid to the African people, and for the establishment of a stable economical development of the continent. For all parties, China, the US, Europe and especially Africa, a big challenge lies ahead to achieve this new balance.

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