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Special Interest Groups & Growth

A Meta-Analysis of Mancur Olsons Theory

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Abstract

This thesis treats the theory of Mancur Olson on the relationship between interest groups and growth and the empirical analyses regarding its validation.

Mancur Olson has developed a comprehensive theory of economic growth that grounds on his 1965 published book *The Logic of Collective Action*. Herein the mechanisms and dynamics of interest groups and collective action are elaborated and discussed. The subsequent complex theory of economic growth presented in *The Rise and Decline of Nations* (1982) shows the impact of the prevailing constellation of interest groups in a country on its economic prospects. The book lead to widespread discourse and criticism and its conclusions were analyzed multiple times with econometric methods. However, the research presents divergent results as to whether Olson's theory can be validated or not.

The thesis gives an overview of Olson's theories and then discusses the criticism raised by other authors and own considerations. A meta-regression analysis is performed to synthesize the diverging results of various studies. Meta-regression analysis is a relatively new concept in economics. Its objective is to look at econometric evidence from a meta perspective and to use regression tools to find out if study characteristics exert an influence on the findings. It filters out the biases and allows a more objective view. The analysis is carried out on two levels: on the macro level using study characteristics and descriptive statistics and on the micro level using single regression results in a binary logistics model. The results allow a more differentiated look on Olson's theory and its tests. It is suggested that the theory is too comprehensive and complex to be covered by econometric methods. Therefore, any proper testing should include an examination of convoluting institutional aspects

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Zusammenfassung

Diese Arbeit behandelt die Theorie von Mancur Olson über die Beziehung zwischen Interessengruppen und Wachstum und die empirischen Analysen bezüglich ihrer Validierung.

Mancur Olson hat eine umfassende Wachstumstheorie entwickelt, die auf seinem 1965 veröffentlichten Buch The Logic of Collective Action basiert. Darin werden die Mechanismen und Dynamiken von Interessengruppen und kollektivem Handeln herausgearbeitet und diskutiert. Die in The Rise and Decline of Nations (1982) vorgestellte komplexe Theorie des Wirtschaftswachstums zeigt den Einfluss der vorherrschenden Konstellation von Interessengruppen in einem Land auf seine wirtschaftlichen Perspektiven. Das Buch führte zu einem weit verbreiteten Diskurs und kritischen Anmerkungen. Seine Schlussfolgerungen wurden mehrfach mit ökonometrischen Methoden analysiert. Allerdings sind sich Forscher nicht einig, ob Olson's Theorie validiert werden kann oder nicht.

Die Arbeit gibt einen Überblick über Olsons Theorien und diskutiert dann die Kritik anderer Autoren und eigene Überlegungen. Eine Metaregressionsanalyse wird durchgeführt, um die divergierenden Ergebnisse verschiedener Studien zu synthetisieren. Ziel ist es, ökonometrische Evidenz aus einer Meta-Perspektive zu betrachten und mit Hilfe von Regressionstools herauszufinden, ob Studienmerkmale einen Einfluss auf die Ergebnisse haben. Sie filtert die Verzerrungen heraus und ermöglicht eine objektivere Betrachtung. Die Analyse erfolgt auf zwei Ebenen: auf der Makroebene anhand von Studienmerkmalen und deskriptiver Statistiken und auf der Mikroebene anhand einzelner Regressionsergebnisse und einem binären Logistikmodell. Die Ergebnisse erlauben einen differenzierteren Blick auf Olsons Theorie und ihre Tests. Es wird suggeriert, dass die Theorie zu umfassend und komplex ist, um durch ökonometrische Methoden abgedeckt werden zu können. Daher sollte jede ordnungsgemäße Untersuchung auch eine Auseinandersetzung mit vielschichtigen institutionellen Aspekten beinhalten.

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1. Introduction

The representation and assertion of one's own interests has become more and more focal point in a time driven by individualism and self-centeredness. It is however unclear how to achieve goals set by self-interest in practice, especially in the context of complex social interdependences. The apparent example of the influence of lobbying suggests that collective action might be a way to help oneself. The renowned economist Mancur Olson nevertheless ascertains that still individual and group interests differ and inefficiencies arise out of that conflict. This implies decisive difficulties for collective action but even more detrimental effects for a society that relies on self-interested rational behavior. The picture Olson draws shows the impact of a spontaneously emerged interest group setting and relies heavily on the inspiration that capitalism itself offers him. Due to readily traceable challenges impeding large groups and associations, the landscape of interest groups will be dominated by small distributional coalitions, such as lobbying organizations that enrich themselves at the expense of others. Olson declares the absence of this unpleasant asymmetry as being the core and cause of economic growth that renders other growth theories possible. He announces a remedy that could help combat the asymmetry: the encompassing group that displays characteristics that would stop the to and fro.

Such a strong claim has of course been tested many times with modern methodological approaches such as econometrical analysis and the careful study of single cases. The outcomes show diverging results indicating some dispute.

Olson's theory and its econometric tests are the subject of this study. The research question that is going to be answered is: Does the form of interest representation prevalent in a society influence its overall economic performance and therefore also its growth perspectives? Further it is asked whether Olson's theory can properly be comprehended by econometrical methods and if so what this tells us about the theory.

In order to assess these questions it is necessary to get a comprehensive understanding of Olson's theory. This is accomplished in the first part of the thesis where his first book *The Logic of Collective Action* (1975 [1965]) and his second

book *The Rise and Decline of Nations* (1982) are discussed and the central arguments restated. Thereafter, criticism and additional thoughts on the approach of Olson are presented and examined. In chapter 3 I state different concerns and propose some "guidelines" to properly capture Olson's theory in a regression analysis. I elaborate the central points of considerations that should be present in an inquiry. To review the empirical literature in a more objective way a meta-regression analysis is conducted in the fourth part of this study. A meta-regression analysis essentially takes the characteristics of the inquiries studied and runs a regression on them in order to detect distorting effects. The method used is described and explained in more detail and then the way the data were collected is presented. Those data are analyzed on a macro level, looking into the different characteristics of the studies, like year of publication, and on the micro level, looking into different characteristics of the regressions reported in the studies, like the number of variables used. Regression results are reported and discussed with respect to Olson's theory. Lastly, the insights of both approaches are combined and legitimate conclusions drawn out of these trying to answer the questions asked above.

2. Olson's Theories

The following part describes the theoretical basis of the present study.

Mancur Olson wrote three important books that can be seen as a trilogy. In his first work *The Logic of Collective Action* published in 1968, he sets out the premises for people to form groups and pursue their common interest. In the 1982 published book *The Rise and Decline of Nations* Olson applies his argument and investigates the influence of interest groups on the prosperity or growth of nations. His final piece is Power and Prosperity published in 2000 the economist discusses institutional structures and appropriate governing in the transition economies (Barkley Rosser, 2007, pp. 4-6). In the following, the two first books are discussed and their main essence worked out, as only these two are relevant for the inquiry at hand. Later on discussions and criticism is reviewed and supplemented by further considerations.

1.1. The Logic of Collective Action

The following chapter will solely relate to Olson's first book (1975 [1965]) and will give a brief reconstruction of the main arguments. The central concern of this book is to analyze the mechanisms and origins of economic interest groups. This is done on the assumption of self-interested rational individuals.

According to Olson, in the discussion about economic groups[1] it is often assumed that members of an organization who have common interests and goals will behave in such a way that they represent these interests and achieve these goals "provided they act rationally in their own interest" (p. 2). However, Olson argues, this assumption does not automatically mean that group objectives will be accomplished, although it would be to everyone's advantage. Based on these assumptions, he shows that different characteristics and circumstances of groups are decisive to whether their project is successful or not (pp. 2-3).

Olson (pp. 5-16) defines the purpose of economic organizations as promoting the interests of their members, which are common interests and not individual interests (because these are best pursued individually and unorganized). An example would be workers' interest in higher wages. Here Olson follows the definition of groups used in the "theory of the group" after Arthur Bentley in the senses that a group "is a number of individuals with a common interest" (p. 8).

The conflict now arises because all those with a common interest usually also have individual interests. Olson illustrates this conflict with a (perfectly) competitive situation in an industry. All companies have a common interest in a higher price. This higher price could be achieved through lower production. However, if an individual company were to reduce its production, it would be faced with the loss of potential profits, as the restriction would then only have a minimal impact on the price. As a result, the company would no longer maximize profits. Rational, self-interested action does not lead to the achievement of the group goal, although everyone would benefit from it. None of the companies wants to bear the costs of achieving this. A higher price could also be caused by government intervention. A lobby would be necessary to achieve this, but also the organization of the lobby takes

[1] In the following, the terms "group", "organization" and "association" are used synonymously.

time and resources, again costs which a committed entrepreneur would have to face. The potentially higher price, whether through production restrictions or lobbying, is a collective good[2] for the group. And this is the special feature. Once made available, no one can be excluded from the use of the good. If an essential point of a group is the common interest of its members, the achievement of that interest is, by definition, a public good. The provision of a collective good is therefore the purpose of an organization, although this does not mean that it cannot also provide individual goods. He defines it as follows:

> "A common, collective or public good is here defined as any good such that, if any person X_i in group $X_1,\ldots,X_i,\ldots,X_n$ consumes it, it cannot feasibly be withheld from others in that group." (p. 14)

Notice that no explicit assumption with regard to jointness of supply or non-rivalry is placed here and that infeasibility of withholding seems to be more directly related to non-excludability, yet probably implying some degree of non-rivalry as well[3].

After the initial definition of the central concepts used, Olson starts his inquiry by pointing to the, what he calls, traditional theories about groups that deal with the formation and function of associations. Some of their proponents simply assume an intrinsic urge to join groups; more sophisticated versions stress the fact that back then smaller groups primarily consisting of kinship were important for different functions of life and nowadays large groups fulfill these objectives. Olson emphasizes that neither can explain why groups form and that although one of the approaches takes notice of the different sizes, however, does not search for characteristics, in the sense of effectiveness or coherence, in the size of groups per se. This then constitutes one of his major research questions – whether there exist

[2] One point of criticism is Olson's somehow unclear demarcation of a public good. He uses the terms public, common and collective good interchangeably. Although he reasons that no pure public goods are considered (footnote 21, pp. 14-15) other arguments in the book sometimes suggest that they actually are object of analysis. See the chapter about the criticism.

[3] In footnote 21 on page 14 Olson writes: "Head has also shown most clearly that nonexcludability is only one of two basic elements in the traditional understanding of public goods. The other, he points out, is "jointness in supply"." And further: "By the definition used here, jointness is not a necessary attribute of a public good."(p. 14)

differences between small and large groups especially in the form of how collective action emerges (pp. 16-21).

He continues by giving a more analytical picture of the problem at hand. In the first step he only considers small groups. Complications in the analysis arise as each group faces a different cost function; generally the provision of collective goods incurs costs and these costs are increasing function of the amount of the good provided. In addition, the first unit that is provided incurs quite high costs as it is linked to the establishment and organization of a group. Further, the members of the group might differ in their valuations of the good. Olson gives a sophisticated formal analysis in his book; as I do not regard it crucial for the purpose at hand, I will not get into depth on this. However, as it is matter for discussion a brief summary of the basics is given in the criticism section.

Each member of the group acts rational and self-interested; she does not pay attention to what the goal of the group is. Therefore, she is going to look at her own advantage that arises from her valuation of the good and the costs of providing it. As long as her net advantage is positive, she will find it beneficial to provide the good. Her valuation depends on her share in the group gain, which in turn depends on the size[4] of the group and the amount of the provided good. This means the larger the group the smaller the fraction she would get in the gain and therefore the probability that her advantage is positive shrinks. Therefore, it is quite likely and more likely than in a larger group that in a small group someone might find it advantageous to purchase the good. Even so when the group displays inequality as than the larger members might find it beneficial more easily. Moreover,

> "such a situation will exist only when the benefit to the group from having the collective good exceeds the total cost by more than it exceeds the gain to one or more individuals in the group." (p. 34)

However, the mere provision of some positive amount does not mean that it is optimal. No one can be excluded from the benefits that arise from the provision since

[4] By size Olson does not merely mean the number of people "but also […] the value of a unit of the collective good to each individual in the group" (Olson, 1975 [1965], p. 23). I think that this is a quite interesting point that should be kept in mind.

it is a collective good. This means that anyone purchasing the good only gets a part of the purchased benefit and therefore will stop before the optimal amount is reached. It also means that her incentive to purchase the good is greatly diminished by the free provision by other members. Again, large groups suffer more from suboptimality than small groups. Inequality helps too: Olson states that the greater the difference in size or valuation of the good of the members the nearer is the provision to optimal. Nevertheless, also the "arbitrary sharing of the burden" (p. 34) becomes worse. The largest member in the group has the highest valuation for the good; accordingly, her advantage is higher and so is the incentive to purchase the good. The smaller member can get the good for free and actually finds herself endowed with even more than she would have purchased. Olson states that the bargaining power of the larger members is relatively weak, as their interest in the good is highest and they would therefore loose the most was the good not provided. They are left without alternatives other than paying for the good themselves. This leads to the "tendency of the "exploitation" of the great by the small" (p. 35).

Olson then deals with what he calls exclusive and inclusive interest groups. Those differ with respect to the objective of collective action and thus their attitude towards entry of members. In both cases the collective good is characterized by the infeasibility of exclusion but in the exclusive case the good too is defined by a limited jointness of supply meaning that the benefit to each member is limited by the use of other members. An example would be collusion in a market situation: the price – the collective good – can only be maintained if supply is fixed; it is not possible that someone produces more as the price would fall then. Therefore exclusive interest groups want as little members as possible and no new entrants. Another problem is that they need unanimity when acting collectively. If they do not, the whole benefit can be appropriated by the one member that does not contribute. This too means that every member has veto power and bargaining is crucial. Inclusive groups on the other hand do not fear entrants. They even welcome them as additional members as they resemble possible new contributors and can reduce costs – the more people the better. Further, they do not need unanimity as the good at hand is not competitive and non-contributors do not take benefits away from the others[5]. An example for an inclusive group would be lobbying groups. Usually non-market

[5] Olson stresses, that this argument only holds when non-zero-sum situations are regarded.

situations are characterized by inclusiveness and market situations by exclusiveness. Olson argues that some groups might exhibit both types of objectives and therefore often have conflicting opinions regarding new entrants, such as unions (pp. 36-43).

Through the analysis presented above Olson arrives at "a taxonomy of groups" (p. 43). Groups can be distinguished by size, whereby size is not solely related to the number of people in the group but also their valuations. Whether the collective good is provided or not depends on the group size, as does the effect of strategic interaction among the members. Small groups are characterized by the fact that one individual in the group will get a large enough fraction of the good in order to purchase it alone. Therefore, provision is certain and interaction does not matter. In medium-sized groups on the other hand, provision is not certain as no member alone finds it worthy to provide the good alone. Now, it is important that in such types of groups the contribution of a single individual is, what Olson calls, "perceptible" (p. 45). It matters to the other individuals whether this one member contributes or not. Olson further distinguishes this type of groups into "privileged" and "intermediate" groups that differ with respect to their necessity of formal group coordination or arrangement. Both need at least some kind of agreement or coordination but privileged groups get by without formalizing it. Intermediate groups need more explicit rules or forms of organization to actually be able to provide the good. The last category are large groups. They decisive characteristic is that the actions of any member are not perceptible or noticeable to the other members. Accordingly, no one has an incentive to contribute to the provision of the collective good and it will not be provided unless some kind of group organization ensures it. Olson calls them latent groups, because of the "latent power or capacity for action" (p. 51) they possess. Those groups can however be mobilized through a selective incentive. This selective incentive might be positive (rewards) or negative (coercion), it just must be greater in value than the contribution to the collective good – otherwise it will be useless. What is distinctive is that the selective incentive unlike the collective good can discriminate between those contributing and those who do not. Intermediate groups too can use selective incentives as means of organization. It is stressed by Olson that those incentives need not be of a material kind but can also be socially motivated. These then only work in medium-sized or smaller group as a social network is indispensable for this kind of selective incentive otherwise it will not

work. Large groups can make use of this kind by dividing the group into subgroups, making the large group a federation of smaller groups that can then utilize social selective incentives (pp. 43-65).[6]

Concluding, there exist several barriers for large groups to organize and act collectively that small groups do not face. Self-interested rational behavior further does hardly ever lead to an optimal level of provision and neither to the optimal pattern of interest group activities. This creates a certain kind of interest group structure that might be detrimental to society as a whole. The next chapter treats the consequences of the here presented logic.

1.2. The Rise and Decline of Nations

In his prominent book published in 1982, Olson develops a theory of economic growth that relies on his earlier studies of groups. After repeating the argument in his earlier book, he then goes on and draws several implications from it. In the rest of the book he then tries to apply his argument.

1.2.1. The Implications

In the following, the implications drawn from the theory are going to be presented in short.

1. *There will be no countries that attain symmetrical organization of all groups with a common interest and thereby attain optimal outcomes through comprehensive bargaining.*

From the logic developed before we see that it is practically impossible for large heterogeneous groups like all unemployed or all taxpayers to organize themselves, but it is easier for small homogenous groups. This asymmetry poses one important

[6] In a footnote (18, p. 63) Olson discusses the possibility of social pressure through mass media and propaganda that even large groups can use. However, the propaganda is not financeable if the group is not already organized.

hindrance for an optimal outcome. Even if it were possible to organize interest groups symmetrically, it would not imply that bargaining would happen. If bargaining happened, it then would probably lead to a "fair" agreement, in the sense that everyone can participate, but there is no guarantee for optimality. Let alone the excessive costs of group bargaining if the whole society is involved.
Thus a situation results in which small groups form and organize and choose strategies that are inefficient for society as a whole but profitable for the group members (pp. 36-37).

2. *Stable societies with unchanged boundaries tend to accumulate more collusions and organizations for collective action over time.*

Olson argues that it is difficult for groups to form in the first place, as the urge to change the way things used to be is met with resistance. Therefore, it can take time until favorable conditions commence and interest groups can form, even if the group is small and/or selective incentives exist. Selective incentives, no matter if positive or negative, take time to be developed. Coercion can only be used with a coercing arrangement or institutions. Social reward and social pressure only work through a social net that has to be built up and if it already exists again the collective action must be advantageous enough. Material selective incentives need to be financed somehow and a "complementarity between the activity that can provide a collective good and that which
produces income must be found or exploited" (p. 39). Olson then further argues that the history of the formation of unions seems to prove this point: although institutional settings would have permitted unions and collective action henceforth a lot of them developed with a delay. Nevertheless, he also talks about the durability of interest groups with selective incentives. Once formed they can persist, reinterpret their purpose and adapt to slightly changing conditions.
It follows that the more time a society stays in a stable state the more interest groups will form and develop their potential.

3. *Members of "small" groups have disproportionate organizational power for collective action, and this disproportion diminishes but does not disappear over time in stable societies.*

As small organizations can form with less delay than large ones can, Olson draws the conclusion that they have more organizational power and more lobbying power per capita over time. Therefore, the disproportion of power is most prevalent in societies with short periods of stability but still exists when stability endures.

4. *On balance, special-interest organizations and collusions reduce efficiency and aggregate income in the societies in which they operate and make political life more divisive.*

Olson states, that in general it lies in the interest of everybody in the society, including the members of special interest groups, to enhance the prosperity of an economy as then everybody prospers. Therefore, this depicts a case in which the organization can serve its members. The other possibility would be to get a larger share of overall wealth for them. To use the popular pie analogy – special interest groups can either make the pie bigger and therefore increase the slice its members get or simply increase the slice through redistributional measures. The problem with the first way is that the group sees itself confronted with the decision each member has to face when deciding whether to provide a public good for the group or not: The costs of increasing societies efficiency is presumably quite large but the benefits accrue to everyone. Therefore, the group would just get a relatively small share and the probability that the benefits exceed the costs is rather limited. If the group would represent a larger part of society this argument might not be true (as portrayed by implication 5) but most of the time, Olson argues, special interest groups represent only a small share. He illustrates this with a simple example: Assume that the group represents 1% of the population. The social benefits as a whole need then succeed the costs of provision by more than one hundred or more. Since this might seldom be the case the organizations will try to increase the slice that accrues to their members. These efforts need resources that would otherwise be employed to generate "social output" (p. 43). Further, through the redistribution the "pattern of incentives" (p. 43) will be changed. These losses are taken into account by the self-interested members, but they will continue with their measures until it affects them negatively (meaning again that the losses need to be more than one hundred times bigger than the gains they get). Olson concludes that special interest groups will diminish the social output

and impose often enormous costs on society by acting in a self-interested manner, i.e. for getting a bigger share. He therefore terms them “distributional coalitions” (p. 44). By lobbying for legislations that lower tax rates for some or increase prices for others, resources employed in the “unfavored” parts surge into the advantaged sectors. As the higher prices or lower taxes are just a product of lobbying the efficiency of these resources is reduced and eventually private gains are equated through the economy reducing the benefits of the members. Of course, if there are barriers to entry (as might be the case when cartelization takes place) the diversion of resources might not take place; nevertheless, efficiency is diminished like it is the case of oligopolies and monopolies.

Olson states, that it might occur that interests and efforts of different groups offset each other and therefore actually lead to more efficiency. However, these efficiency gains are not distributed equally across all members but accrue to the distributional coalitions. Sometimes the collective good provided by the interest group might also increase the efficiency of its members and therefore enhance the overall efficiency; again mainly the group itself benefits.

Olson also puts emphasis on the fact, that when distributional struggles are prevalent in a society or in politics it broadens the resentments and therefore acts divisive. Therefore, they additionally disrupt social life.

5. *Encompassing organizations have some incentive to make the society in which they operate more prosperous, and an incentive to redistribute income to their members with as little excess burden as possible, and to cease such redistribution unless the amount redistributed is substantial in relation to the social cost of the redistribution.*

The next implication somehow offers a way out of the rather drastic situation described and implied by implication 4. Olson describes the consequences if a group grows and comprises a larger part of society. He calls them encompassing groups. Then, he argues, the incentive structure is different than the one described in the foregoing implication. The costs imposed on society as a whole become more important in the self-interested calculations of the interest groups as they have to actually carry them. They own a large part of the resources; therefore, by being concerned about their productivity they care about overall productivity. He states

further, that the encompassing group has an "incentive to bargain with other substantial organized groups in the interest of a more productive society" (p. 48).

The concept can also be applied in relative terms, meaning that simple firm or industry unions might also be encompassing if they encompass a large part of the workforce in that firm or industry. Olson argues that even if the union has bargaining power, it cannot demand higher wages if the firm or industry does not prosper. Therefore, it would lie in its interest to make sure that the firm or industry is efficient. The same logic applies as on the macro level: encompassingness can secure efficiency. He warns however, that it is not always desirable when groups become more encompassing. When a firm level union becomes an industry wide union, it might not affect the society at all. Only when it already encompasses several areas it serves to enlarge it even more as then the incentives to care for efficiency enlarge too. Olson applies the analysis as sketched out in the preceding part to the political system in the United States and offers some interesting insights. However, as it is not conducive for the purpose here I suggest the interest reader to study the fifth implication in the original text.

The argument just given leads to the quite important conclusion that the

> "power of special-interest groups cannot be defined solely in terms of their organizational strength but should, strictly speaking, be defined in terms of a ratio of their power to that of more encompassing structures such as presidents or political parties." (p. 52)

He concludes that one need to be careful when dealing with this matter as more encompassingness is not necessarily always better. A society comprised of just encompassing groups might lack diversity and be prone to flawed conclusions (pp. 47-53).

6. *Distributional coalitions make decisions more slowly than the individuals and firms of which they are comprised, tend to have crowded agendas and bargaining tables, and more often fix prices than quantities.*

Since the more people join a group the more complex becomes the decision process and since the decision process entails the distribution of the costs associated with

collective action, special interest groups need mechanisms and tools for decision making. For small groups consensual bargaining might suffice but for large groups constitutional procedures are necessary to ensure that everyone has a say. Even small groups that do not want to rely on decision processes that might get blocked by one party through simple refusal can prefer constitutional procedures. Especially when regarding collective action on the market place unanimous consent is needed; just think of cartels. Olson argues that these procedures and the process of getting to a unanimous consent take time, as do adaptations to new circumstances e.g. Especially in large groups the density of decision to be made is high. He asserts:

> "The combination of slow decision-making and multiple decisions usually leads to a crowded agenda." (p. 55)

The crowded agendas in turn slow down the decision-making. Olson continues that these too are a hindrance to a fast and easy agreement concerning the distribution of the costs. In order to create this in a more or less fair manner unbiased forces are consulted and more generally prices rather than quantities fixed for the sake of letting the market or the unbiased forces decide who should carry the burden (pp. 53-58).

7. *Distributional coalitions slow down a society's capacity to adopt new technologies and to reallocate resources in response to changing conditions, and thereby reduce the rate of economic growth.*

According to Olson, the maximum rate of growth can only be reached when the economy and the society is able to react to all changes in circumstances. As the interference of special interest groups takes time (as has been discussed under the previous implication) it slows down the adaptation velocity and flexibility of a society, leading to inefficiencies due to unused potential. The incentive structure of firms changes constantly as there is a continual stream of innovations. This in turn changes the environment of special interest groups to which they have to react.

Olson, in the absence of special interest groups, does not assume perfect competition and owes some of the analysis in the following to Schumpeter (p.36). Firms are not price-takers but price-makers. It follows that the absence of special interest groups does not imply a perfectly efficient market system. Olson further assumes that there

are no entry barriers, meaning that supranormal profits generated in one area attract resources which in turn lead to the equalization of profits again in the long run. The supranormal profits are brought about by innovations; those are the driving forces of growth then. Free entry in this sense also means that no one can stay inactive. Additionally to free entry Olson assumes no hindrance to imitation. This constant struggle for survival that is then rewarded with extra profits secures a constant stream of innovations which in turn ensures growth. By slowing down the adaptation process, special interest groups hinder growth, since incentives to innovate change.

Olson sets forth that there are other forces that might reduce the efficiency of an economy without altering its rate of growth. This is so because the rate of growth is by definition a relative concept. As long as special interest groups somehow substract a constant share of income in each period but leave the ability to adapt unaltered growth rates remain the same. Still distributional coalitions interfere with change and adaptation itself as they introduce new patterns that long for new policies and courses of action which in turn lead to new bargaining. This might be dangerous for the mere existence of the group. On the other hand unions e.g. might just be opposed to the introduction of a labour saving technology for obvious reasons. In addition, the slow-decision making as described under the prior implication slow adaptation itself as the optimal course of action is difficult to detect and then even more difficult to agree upon. Further, distributional coalitions might simply by lobbying for a bail-out e.g. reduce the redirecting capacities of innovations. Groups forming barriers of entries to certain industries diminish further economic growth and decrease efficiency, as the prior argument shows.

Under implication 4 it has been shown that even though barriers to entry and adaption retarding behavior have not yet been considered special interest groups come with a social loss. The argument presented under implication 5 shows that their activities can be far more detrimental than previously assumed (pp. 58-65).

8. *Distributional coalitions, once big enough to succeed, are exclusive, and seek to limit the diversity of incomes and values of their membership.*

Olson argues that every group eventually becomes exclusive. The gains of collective action must be shared between the members of the group and as long as new members are helpful to benefit even more from collective action - e.g. when the

group gets more power through more members - they are welcomed. Though once the maximum potential is exhausted - when all firms are part of the cartel or new members will not add more power to a lobbying organization - new members decrease the share of each and are therefore avoided. Olson then goes on and tries to illustrate this point with the endogamy in ruling oligarchies and nobilities, which should serve to not stretch the group of favored people. Of course more homogenous groups tend to agree more easily. They might be more socially interactive and therefore benefit from social selective incentives (pp. 66-69).

9. *The accumulation of distributional coalitions increases the complexity of regulation, the role of government, and the complexity of understandings, and changes the direction of social evolution.*

Olson abstracts from mainly two types of collective action: the one who arising in the market place (collusions and cartels), the other in the area of politics (lobbying). He puts forth:

> "Lobbying increases the complexity of regulation and the scope of government and collusion and organizational activity in markets increase the extent of bargaining and what I call complex understandings." (p. 69)

Like stated in the quote, regulations essentially become active through lobbying. Those regulations in turn have loopholes and call forth even more regulations. These again can change the incentive structure and make even more people concentrate on finding and lobbying for exceptions and special provisions leading to an immense degree of complexity. The monitoring of these bloats up the bureaucracy and increases the scale of government. Collusions and cartels on the other hand increase complexity in the market place: Transactions do not simply occur between sellers and buyers but involve a whole intermediate sphere where agreements and bargaining have to be negotiated constantly. Sometimes the participating groups have to bargain with one another and the process of slow-decision making and crowded agendas leads to a solidification of complex understandings. Olson maintains that these processes actually interfere with the incentives, the structure and the evolution of norms of a society by encouraging traits that are not necessarily conducive to

production but to evading regulations and bargaining. He states that this by no means increases equality or fairness, as now those who are whit enough to play the game of special interest groups are favored (pp. 69-73).

> "Thus life is not any gentler because of special interest groups, but it is less productive, especially in the long run." (p. 73)

1.2.2. The Application

In the third chapter of *The Rise and Decline of Nations* (and essentially also in the rest of the book) Mancur Olson then goes on and applies his argument to different nation states and runs a regression analysis to lend support for his theory. As stated in the introduction two his second book his main motivation for the theory was the post-World War II performance of West Germany and Japan, generally termed an economic miracle, compared to the performance of Britain (p. 3, 75-76). This is then also the main case of application of his theory. He argues that through the war the existing interest groups were smashed and that in Britain, a nation characterized by a high degree of legal and political stability, the full extent of institutional sclerosis (a term used by Olson to describe the solidifying hampering effects of special interest groups on economic growth) can be observed with rather small and strong special interest groups. The chapter is called "The Developed Democracies Since World War II" and hence he also discusses the good growth rates of France, the history of the United Kingdom compared to the Continent and the seemingly exceptions of Switzerland, Sweden and the United States. I keep aloof of giving a detailed description of the prospects offered in this chapter as I doubt the usefulness of it. The reasons for that doubt are going to be discussed in more detail later on in the chapter about criticism.

He then presents empirical evidence on his theory by comparing the growth rates of the state economies of the United States. He puts special focus on three of his implications (2, 4, 7) and shows that

> "measures of state age are directly correlated with union membership (Implication 2), union membership is inversely correlated with the growth

rate of income (Implications 4 and 7), and state age is inversely correlated with income growth (combination of Implications 2, 4, and 7)." (Heckelman J. C., 2007, p. 21)

The state age of the Confederate states is deduced from the end of Civil War and for all the other states from the date of statehood (Heckelman J. C., 2007). He further investigates urbanization as a measure of institutional sclerosis and controls for the catch-up hypothesis. Olson and his scholar Kwang Choi, who helped him, assemble the empirical evidence, present econometrical proof for the theory by reporting statistically significant results.

Chapters 4, 5, 6 and 7 deal with the analysis of other countries such as Australia, New Zealand, Hong Kong, other Asian countries and developing countries (Maddison, 1988). Further, he tries to analyze political stability, inequality, unemployment and inflation with his theory (Rogowski, 1983, p. 717).

1.3. Criticism

The amount of discussion and criticism offered on both above described works is astonishing. *The Logic of Collective Action* was "fundamentally innovative at the theoretical level" (Barkley Rosser, 2007, p. 4) whereas *The Rise and Decline of Nations* received widespread debate and created an extensive dialogue.
Barkley Rosser (2007) argues that *The Rise and Decline of Nations* can be seen as the magnum opus of Olson's career. *The Logic of Collective Action* put forward the basis that could now be applied to the world and its history. According to Olson there was a lack of theories that explain the ultimate causes of economic growth, instead past research concentrated on sources that already were influenced by causes and therefore failed to provide a proper framework (Heckelman J. C., 2007, p. 20). He says:

"…; they trace the water in the river to the streams and lakes from which it comes, but they do not explain the rain. " (Olson, 1982, p. 4)

This then was his primary objective.

The criticism on both is manifold and the scope of this thesis does not allow the engagement with every single one of them. Therefore, I am going to discuss those arguments that seem the most relevant to me.

First, some thoughts on the Logic of Collective Action are put forward and then a short extract of the debate around the Rise and Decline of Nations is presented followed by an evaluation on how this might be tested by empirical methods.

1.3.1. The Collective Good

The logic that group size is decisive for collective action has attracted a lot of criticism and confusion. What makes it even more confusing is Olson's definition of a collective good and its properties. The somehow unclear character of the collective good, especially regarding its jointness of supply or non-rivalry, has led to some disorientation (Lane, 1984; Hardin, 1982; Udéhn, 1993). As discussed above for Olson a collective good - of which the provision is the interest of the group - is characterized by non-excludability and jointness of supply. Crucial for his definition of a collective good is the non-excludability; jointness of supply might vary, but he excludes pure public goods (1965, footnote 21, p. 14). This limits the level of abstraction, but only to a minor extent[7].

In order to grasp the criticism some basic steps of Olson's analysis are recapitulated. The share of the group gain of each individual (F_i) declines the bigger the group gets. The share in turn depends on the individual valuation or benefit (V_i) and the group valuation (V_g) ($F_i=V_i/V_g$). V_g then is an increasing function of group size S_g and the amount of collective good supplied T. According to Olson the share then is a decreasing function of group size.

On ground of this analysis Russell Hardin tried to redefine Olson's theory in his book *Collective Action* (1982) and somehow reconcile the criticism of Buchanan, Frohlich and Oppenheimer and his own view. Based on Olson's condition for the possibility of collective action, that the individual benefit A_i ($=V_i - C$) needs to be

[7] Imagine the example provided by Hardin (1982, p. 45): A group of 100 gun owners is less likely to lobby against gun control, a highly jointly good, as the costs incurred would be way above the benefits. A group of 1 million gun owners can probably accomplish this more easily. All these situations need to be considered in all times when drawing conclusions which makes deductions tough.

bigger than zero Hardin states that Olson did mix up two distinct typologies in his book.

The first one would be whether groups stay latent or come into action and are therefore privileged. If the above condition is satisfied for some person *i* in the group, the group is privileged and provision certain. Now, for all the other groups the cost benefit ratio of some individuals combined is important. When this ratio is rather big it might be easy to find some people to coordinate and provide the good as for this subgroup it might easily get beneficial. Therefore, it depends on the smallest amount of people needed to form such a subgroup. This, however, need not depend on group size, especially in groups with heterogeneous valuations for the good.

The second typology is that of small, intermediate and large groups and relates solely to the number of people in the group. The impact the size of the group has on its latency in the above sense is the matter of interest. Small latent groups for example have "socio-political advantages to help" them "overcome latency" (Hardin, 1982, p. 40). Hardin terms them intermediate groups. Olson's general argument is that the likelihood of organization for collective action decreases with group size. However, Hardin's line of reasoning is more complex than that. Important for the benefit cost argument from above is the characteristic of the collective good and in particular its jointness. If a good with high jointness in supply is provided in a small group it does not matter how much people join the group, it will always be provided. On the other hand, if the good is rival it does matter. Another side remark from Hardin is that the production of a lot of goods actually shows increasing returns to scale and therefore the cost might even decrease with more people joining the group leading to stronger incentives of provision for some subgroup. Further, the costs of organization too might display increasing returns to scale giving an advantage to larger groups.

In addition, the Olsonian-statement about group size, according to Hardin, might imply a comparative approach of the sorts "group A is bigger than group B and ceteris paribus less likely to coordinate". On the other hand, it can also mean that the bigger group A gets the bigger is the likelihood of its failure. Hardin argues, that most criticism centers on this statement and then compares the different approaches of Buchanan, Frohlich and Oppeheimer and himself regarding different settings and therefore keeping different aspects of the general logic constant. The essential point on this behalf is that Olson's argument relies on the above described statement that

the share decreases with group size – but this is only true ceteris paribus[8]. Hardin in the end then states that the definition of group size given by Olson is not straightforward and that a lot of ambiguity arises from it. In summary, the conditions for collective action are defined in more detail and hence generalizations on the relationship of group size and the degree of collective action should be made cautiously.

The discussion of Hardin can be enriched by evidence from behavioral economics, as proposed by Sturn (2018, pp. 6-13). Olson already discussed the impacts of social selective incentives and social norms as well as the network of group members on the likelihood of provision. Again small groups have an advantage. The evidence Sturn summarizes shows that it is not group size per se but exactly this "deterioration of the possibilities of accurate sanctioning of those who refuse to cooperate" (2018, p. 9) that render collective action less achievable.

Concluding I agree with Sturn in his judgement that the relationship between group "size" and cooperation is more difficult and complex than proposed by Olson, but that overall larger groups do have disadvantages with regard to the likelihood of collective action.

1.3.2. Explaining the Rain

Criticism on *The Rise and Decline of Nations* affect the policy recommendations implied by the theory and specifically given by Olson, his understanding of the underlying theory of markets and growth processes, his theory of the state, his apparent institutionalist approach, the non-parsimonious statements of the genius of Olson and the application of his theory. However, it is important to keep in mind that Olson (1982, e.g. pp. 15, 87) repeatedly stresses that there are no mono-causal explanations and theories of economics and history.

Mjøset (1985) in his book review puts forth that Olson tries to combine neoclassical economics with institutionalism and fails to do so properly. Udéhn (1993, p. 241) on the other hand emphasizes that Olson already knew of institutional remedies to

[8] For the detailed comparison, see Hardin 1982, p. 45-47.

collective action problems in a time when new institutionalism did not yet make an impact on economic theory of collective action. Nevertheless, according to Mjøset, Olson argues that without the distortive effects of interest groups efficiency is reached as "unconstrained competitive markets are efficient" (p. 58). His first point of criticism is that Olson then does not make use of the concept of perfect competition and therefore the markets are generally not efficient. However, graver is the second claim that "true" institutionalists assume that markets per se are inefficient and therefore institutions are needed to balance these countervailing effects. Mjøset also does not approve of Olson's numerous hints of his theory providing a thorougher explanation than many other attempts because at the same time Olson returns to ad-hoc explanations when actually applying his theory. Yet Udéhn (1993) argues that Olson shows that the mere fact that collective action exists represents the incapacity of economic theory of collective action to adequately capture collective action due to flawed postulates. In line with Udéhn I think that Olson has used the assumption of self-interest as a heuristic device. Accordingly, the fact that Olson does not assume perfect competition might indicate his institutionalist approach by denying the existence of markets "without" institutions as represented exactly by perfect competition.

Douglass North (1983) in his review also tackles Olson on behalf of not taking into account one major institution: the state. As reported by North, the study is missing a decent analysis of the interaction of distributional coalitions and the state. He writes:

> "The state is not simply a passive reflection of interest group coalition (which is the implication of Olson's argument)." (North, 1983, p. 163)

Coates and Heckelman (2003) argue that Olson understands the state as the most encompassing group as it contains everyone and would in the absence of special interest groups that seek to influence it act in an efficiency- and growth-enhancing way. They now conclude that as lobbying is happening the state sees itself confronted with a different incentive structure. Olson himself in a later article (1983) actually does describe the government as the most encompassing group. I would argue that in principle the government is the one encompassing everyone but that there exists a possibility that a subgroup acting in its own interest somehow boycotts

the encompassing goals. Through the regulations and the higher degree of bureaucratization resulting from interest group activity those goals may additionally get distorted. Nevertheless, I would agree with North, that a profound theory of the state would be helpful to clarify the theoretical implications.

This would probably also attenuate Maddison's (1988) critique that resembles to a certain extent the one brought forward by Mjøset and North. Maddison argues that Olson uses free trade, free entry for investors and free migration as remedies for institutional sclerosis; further, Olson believes in the power of unconstrained competition. This leaves no scope for macroeconomic policy that according to Maddison is vital especially in the light of economic inequality. Again, he dismisses part of Olson's arguments by arguing that he underestimates the influence of institutions and policy. Maddison goes on by modelling Olson's theory in a simple diagram and modifying it so it fits his criticism (pp. 27-28). Lane (1984, p. 270) too questions the implications and the logic by regarding inequality. Following his argument, distributional coalitions might have an incentive to promote growth if the unequal distribution of the gains would alter the benefit cost ratio.

The other remedy that Olson proposes are the encompassing groups. Some authors argue that this is some kind of "deus ex machina" (Horgos & Zimmermann, 2009, p. 302) but others see it as a calling coming from Olson to actively organize a regulatory policy capable to promote encompassing groups (Sturn, 2018, pp. 15-19). Sturn shows that the mere existence of encompassing groups does not suffice to hinder stagnation as they might e.g. suffer from internal struggles that render them incapable to capitalize on win-win situations. Nevertheless, he too argues that encompassing groups are just one of three institutional arrangements that are able to keep special interest groups docile. The other two are the rule of law and

> "an overarching advocatory representation of the overall interest through strong future-oriented central state policy". (Sturn, 2018, p. 18)

This brief discussion shows that authors cannot decide on whether Olson's statements come from an institutionalist perspective or essentially contradict them. I find that circumstance interesting and refreshing. Probably it is exactly this Olsonian ambiguity that makes his works so intriguing and keeps the reader attentive. Then

again it encourages all kinds of interpretation and maybe his final book *Power and Prosperity* was an attempt to clarify his message.

Nearly all of the above-cited authors and even more criticize Olson's application of the theory (Maddison, 1988, p. 29; Mjøset, 1985, p. 82; North, 1983, pp. 163-164; Sturn, 2018, p. 16). It seems that indeed his interpretation of historical events is quite arbitrary and although he denounces other theories because of their use of ad hoc explanations his interpretation of events is often grounded on these. Rogowski (1983, pp. 714-721, 726-730) for example argues that the use of empirical evidence by Olson is highly selective and that the theory just applies to a very certain period and can therefore not be used for generalizations. He further shows that certain incidences used to validate the theory can be interpreted in a different way.
Olson's main point is his econometric evidence, but according to Rogowski (1983, p. 720) he himself is not too certain on how to operationalize his decisive explanatory variable. Maddison (1988, p. 29) too criticizes that Olson does state nothing on how to measure his concept.
There have been lots and lots of empirical test with every combination possible. To extract the nucleus of truth a meta-regression analysis is needed, but before I get into the econometrics, a quick overview on how to measure it is given.

Overall, I think that the theory of Olson provides new interesting insights on how to view growth and growth processes. It allows a broader view on institutional mechanism and encourages keeping his logic of collective action in mind when reasoning on policy related topics. However, I strongly agree with Olson that there is no mono-causal (1982, pp. 15, 87) theory in economics in general and that multiple factors have to be taken into account when researching the causes of growth.

3. Testing the Theory

As stated above there exists a broad literature trying to test Olson's theory. Nevertheless, there are a lot of caveats and it is actually not clear how to do this exactly. The arguments raised in the critics section reveal that Olson himself did not know how to properly measure his variables and the framework proposed by him and his scholar is certainly not complex enough to capture the whole theory. This begs the question whether such methods as regression analysis are actually apt enough to validate the arguments. Trying to reconstruct the theory already poses a challenge and shows the high level of interconnectedness of the arguments and mechanisms at work. Case studies that have also been conducted in abundance might actually fit better to validate the concept. They can better take into account the institutional structure and meaning of certain groups and events.

The greatest difficulty in regression analysis is certainly the measurement of special interest groups. Size alone does not suffice neither does the number; crucial is the power of these groups. I would argue that not only the absolute power is important but also their power relative to the countervailing groups, the encompassing groups – therefore relative to the government as the most encompassing group[9]. This then begs the question how to measure the power of the government. Simple expenditure measures fail the task as the activity of distributional coalitions actually bloats up the state. Nevertheless, I am convinced that a proper test needs to employ some kind of variable for encompassingness. Again, the concept of power is quite vague and hard to measure. This increases the difficulty.

Further, institutional arrangements do differ from state to state. Simple cross-section analysis might not be able to account for these differences. This indicates that panel or time series cross section data display a more appropriate framework for testing the theory.

Another important factor is time. Since special interest groups and encompassing groups too need time to organize and develop their full potential. Therefore, variables that take into account the evolution and changes of the power of groups might be able to verify certain aspects.

[9] Gray and Lowery (1988) put forward a sophisticated (although flawed) framework on the account of absolute and relative power of interest groups.

Last but not least, the analysis used must allow for other growth influencing factors and growth theories. The growth literature needs to be taken into consideration and its findings incorporated into the framework. An inquiry that does e.g. not control for the initial value of the variable considered to measure growth most certainly attributes the impact of the catch-up hypothesis on growth to Olson's theory.

All of these considerations do not lead to specific hypotheses. The subject of these studies is to test whether the theory is true or not. This means that a study that incorporates all the above might tell us whether Olson is right. The problem for regression analysis lies of course in the data and the specifications. The specification issues just discussed would not pose a problem if there would exist the right data to measure everything proposed. This of course would highly reduce the complexity of the analysis. As there are a lot of restrictions concerning the data proxies and other statistical remedies have to be included.

Therefore, in order to be able to make some statements regarding regression analysis of Olson's theory and of the appropriateness of the approach per se, one needs to deal with all the biasing factors present in investigations through regressions. For this purpose a meta-regression analysis is conducted in the next chapter.

4. The Analysis

In the following the tools to evaluate the studies conducted to test Olson's theory are explained and then applied. Results are reported and discussed.

4.1. Meta-Regression Analysis (MRA)

A MRA is a quantitative method used to summarize diverging results of econometric studies. As Stanley and Jarrell put it:

> A "Meta-Regression Analysis (MRA) is the analysis of regression analyses." (1989, p. 161)

According to Stanley and Doucouliagos (2012), it is not prone to subjectivity and selection bias, as is the widespread literature review. Through statistical methods subjectively selected specifications can be "filtered" out and their influence on the conflicting findings of different studies be assessed.

First used in medicine, it made its way from psychology and education to the social sciences and economics. The concept is greatly advocated by Stanley and Doucouliagos (2012) who emphasize the critical and informative character of this approach. They state that there exists a problem with the current production and spread of a vast amount of empirical studies. Those are widely varying with respect to their findings, but are nevertheless important when they act to inform e.g. policy advice. This huge production of empirical output is actually encouraged by science and media. As part of the encouragement a publication bias is introduced into the reported studies, as only some regressions with certain specifications that prove significant get published in the end. Those "model specification choices" (Stanley & Doucouliagos, 2012, p. 2) affect the results and are again widely divergent. Stanley and Doucouliagos argue that through a MRA it is possible to compare the different approaches and do away with such misspecification biases. Therefore, the goal of a MRA is to reveal "the "nuggets" of truth" (p. 2) that are present in all the studies by a critical and objective methodology that consolidates inconsistent empirical findings.

Since 1989 meta analyses has gained in popularity and its adoption in economics is growing by about 18% per year. In a search on EconLit Stanley and Doucouliagos identified approximately 430 meta-analyses in 2009 (2012, p. 8).

Opposed to a literature review the studies that act as objects are not chosen on subjective criteria nor is the interpretation of their results. Of course, MRA suffers the same caveats as do econometrics in general; however, it should offer a more systematic approach. Therefore, the first and a quite crucial step when conducting a MRA is the process of identifying fit studies. The whole population of empirical research on a certain topic should be revealed to secure unbiasedness (Stanley & Doucouliagos, 2012). However, there is a conflict between the coverage and the precision of the selection. The selected studies should be representative (coverage) but at the same time hold high quality information (precision). As the two are inversely related this is not an easy task to accomplish (Nijkampa & Poot, 2004).

In order to make the different results of the studies comparable some kind of standardized measure that keeps the magnitude, the direction and the significance of the effect in mind is needed. In a MRA terminology this is the effect size that is then used as the dependent variable. Regression coefficients, t-statistics, elasticities, etc. can all be used as effect sizes as long as they are or can be made comparable. The effect size is regressed on diverging characteristics of the studies under consideration that ought to explain the variation in the results.[10] This postulates at least some similarity of the studies in the way they measure the effect under consideration (Stanley & Jarrell, 1989).

The manner in which the studies looking into Olson's theory varied the combinations of a sclerosis measure and a growth measure made me doubt the usefulness of an effect size that is directly extracted from the regressions, as would be t-statistics or regression coefficients. After considering the different approaches I decided to take the conclusion of the author (support, no support or mixed support of the theory) and the result of the regression (significant and as expected or not) as my effect size (although I am not too sure whether Stanley and Doucouliagos would agree with me labeling it as effect size). Since my effect size is going to be a binary variable I opted for a logit model.

4.2. Data

4.2.1. Search Process

For the research process three main search engines were used – JStor, Scopus and EconLit. I would have preferred to search first with EconLit, but as it was down for maintenance, JStor was my choice. Considering that every portal uses different

[10] When e.g. regression coefficients are used, a testable equation could look the following way:

$$b_j = \beta + \sum_{k=1}^{K} \alpha_k Z_{jk} + e_j \qquad (j = 1, 2, \ldots L)$$

, where b_j is the regression coefficient from study j (with L studies overall) and β the" true" effect. The Z_{jk}´s are the meta-independent variables that reflect certain study characteristics and the α_ks reflect their biasing effect. As usual, e_j is the meta-regression disturbance term (Stanley & Jarrell, 1989, p. 164).

mechanisms for searching, quite different approaches and filters had to be used. Nevertheless, I tried to keep the process similar. The main objective was to detect the population of papers on the topic of interest.

Regarding the time consuming process of detecting every paper, I am not confident enough to state that this resembles a full listing of all published and unpublished papers on the topic. Nevertheless, I think valuable conclusions can be drawn out of the results when these limitations are kept in mind.

Starting with Jstor the search began to be kind of hard, as one, when using the advanced search, can only choose between five categories regarding the words used for the search – "title", "abstract", "caption", "item title" and "all fields". I used the "title"-category as JStor only has 10% of the abstracts and "all fields" yielded imprecise results. I searched for all content (not just the one I could access) and I searched for papers in English (for a detailed description of the words used, the procedure and the number and kind of papers found see table 1.1 in the appendix).

I then moved on to Scopus, again using the advanced search. There one can choose between several options when typing in the keywords. I used the "title/abstract/keywords"-category. Learning from the first search and as Scopus is somewhat more comprehensive than JStor I did not apply all words previously used (see table 1.1).

Lastly, I used the EconLit search portal for AEA members. This tool was even more comprehensive why again I changed the words slightly (see again table 1.1). I did not have to select a category for once and searched for papers in English. Additionally, I excluded collective volumes, books etc. respectively those that were not available to me.

Generally, I selected those papers that indicated some connection to Olson and his theory and statements regarding growth and that employed regression analysis. If in doubt when scanning the abstract, the full text was considered. I do not regard all studies and all tests of the other implications from Olson. Later in the process papers dropped out as they were not fit but seemed fit in the searching process.

In the end, I checked a literature review containing a meta analysis written by Heckelman (2007), the only literature review I could find on this topic. In his review Heckelman considered different aspects of the analyses done about Olsons theory; he regarded papers dealing with regression analyisis and testing the growth implication.

Therefore the papers cited are prefectly fit for my analysis and I combined my search results and the results of Heckelman.

Through this process I was able to detect 69 papers on the topic.

After the initial searching phase I went on by reading every paper carefully. Unfortunately, papers that seemed suitable in the beginning often turned out to be not as useful and fit as supposed. Through the reading I again encountered various other papers on the topic. So the overall number of papers taken into account was 75. To 7 out of these I had no access. Therefore, I went on and analysed the remaining 68 papers. My main criteria for selecting the inquiries were 1) that they explicitly stated to test the theory of Olson regarding growth and interest groups, 2) that they used the growth rate of some kind of income or GDP measure as the dependent variable and 3) that they performed some regression analysis. I only softened these conditions when looking at the papers proposed by Heckelman (2007), as I regarded them important. However, if they did not report regression results I discarded them. Some of the work proved to be too detailed in their regression approach, as to be put into the framework proposed here. This procedure left me with 29 solid papers that fullfilled the requirements (see table 1.2). Unfortunately, the scope of this work does not suffice to take into account all the different specifications for testing Olsons comprehensive theory but it should do the inquiry justice.

4.2.2. Extraction of Primary Data

I continued by filtering out the characteristics of the studies. I took notes on the dependent variable used, the source it came from, the author, the year it was published, the paper it was published in, (or whether it was published in a book or as a working paper), the title, the regression method used, the sample type (cross section, pooled cross section, etc.), the characteristics of the sample (how many countries or time points, which kind of countries, OECD or US, etc.), whether there is a direct measure of Olson's sclerosis component, what kind of measure this is, whether it supports, does not support or finds mixed results for the theory, if it uses any measure of encompassingness and states that as is and how this is then specified. Further, I made some remarks for myself and noted if the study under analysis is a direct response to another work. I wanted to extract as many information as possible

to have them up on my sleeve. Therefore, I went on and listed each regression entailed in the paper that seemed fit to me. I tried to choose those that were credited the most by the authors without introducing considerable biases. However, the reader should keep in mind that the regressions were "hand-picked" and therefore do not constitute full representativeness. I took notes on the estimation method used, the number of variables, the number of Olson variables, as well as the specific Olson variables and other covariates used. Further, the sign of the coefficients of the Olson variables was recorded, as well as their significance levels and whether the sign met the expectations of the author(s)[11]. The (adjusted) R^2 and the number of observations were noted too.

The next step is modifying the primary data so it can be used to perform regression analysis and descriptive statistics. Along these lines I got 29 observations on a "macro" level concerning the studies and 237 observations on a "micro" level concerning the reported regressions in the studies.

I do use SPSS for my calculations, as I was already familiar with the program.

4.3. "Macro" Level: Procedure and Results

In order to do a logit model the variable holding information on whether the authors found support, mixed support or no support at all had to be transformed into a binary variable. I chose to set support equal to 1 and no or mixed support equal to 0. I did so to keep the outcome of the model meaningful, as out of 29 just 5 do not support Olson's idea. It is also sensible to view the categories support and mixed support separately as I relied on the self-assessment of the authors and therefore the concept of mixed support is a rather vague one. Analyzing the topic with a multinomial model in further research might be fruitful. 62% (18) of the studies support Olson's theory, 17% do not (5) and 21% (6) show mixed support.

[11] It is important to know that all authors expected Olson's theory to be true.

Table 2: Descriptive Statistics of Variables for Macro Level Analysis

Variable	sample	support	No/mixed support
Author's conclusion (dependent variable)		**62**	**38** (=17+21)
Per Capita			
yes	62,1	61,1	38,9
no	37,9	63,6	36,4
Timespan (min:5; max: 80; average:23,31; std.dev.: 14,437)			
5-15	24,1	57,1	42,9
16-20	34,5	70	30
21-25	24,1	71,4	28,6
26-80	17,2	40	60
First Year of Period (min.: 1902; max: 1985; average: 1964,8; std.dev.: 17)			
1902-1965	48,3	57,1	42,9
1966-1985	51,7	66,7	33,3
Year of Publication (min: 1983; max: 2012; average: 1995; std.dev.: 10)			
1983-1988	48,3	64,3	35,7
1996-2003	27,6	50	50
2005-2012	24,1	71,4	28,6
Journal			
all other journals	55,2	68,8	31,2
Public Choice	34,5	60	40
Journal of Politics	10,3	33,3	66,7
Reg. Method			
OLS	62,1	66,7	33,3
2SLS	17,2	40	60
all others (GLS, WLS, Error Component Estimator)	20,7	66,7	33,3
Datatype			
cross section	69	60	40
pooled time series cross section	17,2	60	40
time series	3,4	100	0
panel	10,3	66,7	33,3
# of Countries (min:1; max: 132; average: 38,3; std.dev.: 30)			

0-30	48,3	71,4	28,6
30-132	51,7	53,3	46,7
Sampletype			
US states	24,1	57,1	42,9
OECD countries	41,4	66,7	33,3
OECD&LD[1] countries	24,1	42,9	57,1
LDCs[1]	10,3	100	0
Sclerosis Measure			
Age measure			
0	55,2	62,5	37,5
1	44,8	61,5	38,5
War measure.			
0	86,2	64	36
1	13,8	50	50
Union measure			
0	75,9	59,1	40,9
1	24,1	71,4	28,6
Number measure			
0	72,4	66,7	33,3
1	27,6	50	50
Strenght measure			
0	79,3	60,9	39,1
1	20,7	66,7	33,3
Encompassingness measure			
0	79,3	60,9	39,1
1	20,7	66,7	33,3

All values in %.

[1] LDCs here stands for less developed countries.

Out of the other primary data I constructed several other variables. They are listed in table 2. I used them, although with different specifications fit for regression, and ran several regressions. Different combinations of the variables did not prove significant. Since I had no previous expectations about which variables would come out significant I also tried stepwise regressions without proper results. I controlled for

correlations with the phi coefficient for binary variables and the Pearson coefficient for correlations between binary and metric variables. Again, I found no significant results doing this exercise. Regarding the small sample, this does not seem surprising; especially since in some regressions the number of covariates converged to the number of observations diminishing the degrees of freedom. Therefore, regression analysis will be performed on the micro level. The data was again recoded to perform descriptive statistics and cross-tabulations. Those are reported in table 2 and will be explained now in further detail. One should keep in mind that the following represents mere observational counting.

Per Capita

First, it was explored if the measurement of the dependent variable in per capita terms does matter, as there exists a discussion in the Olson literature about the proper way to measure it. Approximately 60% in the sample do measure the dependent variable in per capita terms, but it should be noted that about 24% of studies do use multiple measures. The distribution of support and no/mixed support regarding the per capita variable resembles the overall distribution.

Length of period under consideration

The studies vary with respect to which period they use to measure the dependent variable and when it starts. As most studies use cross-section data the starting point of the period under consideration might not be too influential. The length of the period on the other hand might "influence" the observation of support, as most studies used a sclerosis measure that was evaluated at the beginning of the period. The longer the period under consideration the more time has passed which in turn is crucial for interest groups to exert their influence. As expected the cross-tabulation for the first year in the period resembles again the distribution of the whole population although those studies starting their period between 1966 and 1985 show more support. As for the length of time: the examined period is on average approximately 23 years and ranges generally from 5 to 80 years. Contrary to the expectation, research using a longer time period shows remarkably less or mixed support for the theory. Those using between 16 and 25 years show more support.

Year of publication

Concerning the year of publication, I do not have particular expectations, but one should consider that in the years after the publication (in the 1980s) the discussion was quite vivid. That is reflected by the fact that in this sample about 50% of studies were published between 1983 and 1988. The distribution of support and no/mixed support in this time span reflects again the overall distribution. Those between 1996 and 2003 lean more against no/mixed support and those later on show relatively more support for Olson.

J*ournal*

In the prior cited study, Heckelman (2007) conducted a smaller meta-analysis where he mainly focused on whether economics and political science scholars do diverge in their results when studying Olson's theory. Heckelman compared 28 econometric studies and 25 case studies. He reports no systematic bias in the findings on the basis of authorship location (America or Europe), methodology (case study or regression analysis) and publication outlet (economics or political science journals). I did not code every journal according to whether it belongs to the field of economics or political science, however, there are three papers published in the *Journal of Politics* and 10 in *Public Choice*. I shall regard them representative for the associated fields. Contrary to Heckelman I do find a bias with regard to the *Journal of Politics*, where the majority does not support the theory, but again the sample for this journal is rather restrictive. The conclusions drawn are not resilient.

Regression method used

Five regression methods have been used through the studies; OLS, 2SLS, GLS, WLS and the Error Component Estimator. In several studies more than one method was regarded, especially the OLS and the 2SLS were paired often. I decided to label those studies as representatives of a 2SLS approach beause often endogeneity problems are revealed when discussing the OLS results and then corrected for by 2SLS. Surprisingly, 60% of studies using the 2SLS estimation procedure end up with no or mixed results. This matter is discussed later on in more detail. When analyzing each individual regression the methods applied can be better distinguished and no errors through generalizations are committed.

Data type

Four types of data were used in the studies: cross section, pooled time series cross section, pure time series and panel data. As to the degree of complexity present in Olson's theory, an approach capable of introducing more complexity in the model as well should prove superior in supporting the theory. However, neither those studies applying a panel data approach nor those working with cross section time series data do show more support than average for the theory. It probably should be noted that Olson himself when testing the theory in 1982 used cross section data (1985, p. 99-157).

Countries in the sample

On average 38 countries were used for testing, but they reach from one country under consideration to 132. The number of subjects does play a role for the number of observations, so more tends to be better. Also different kinds of countries were used; some studies only looked at OECD countries, others concentrated on LDCs and some both of them. A quarter of the reported papers checked for the US states, as too did Olson (1985, p. 99-157). If more is actually better then it seems that the theory is not well supported, as those studies exhibiting a larger sample show less than average support. On the contrary, those with a little sample show relatively more support. Since the sample of studies is divided into two groups according to whether they included more or less than 30 countries it means that all those looking into US states find themselves in the latter group. The data show that they too find less support. The evidence on LDCs is somehow mixed; when OECD and LDCs are analyzed together, support seems to decline quite substantially. However, when the sample consists of LDCs only the data show absolute support. Although being universal, Olson developed his theory with developed nations in mind. Therefore, it might not come as a surprise that less support shows when analyzing less developed nations. What to make out of the conflicting findings might get clearer when analyzed at the micro level.

The Sclerosis Measure

Olson's theory is elaborated on the grounds of a broad concept of interest groups and their influence on the economy and society. Although sound on an abstract level, when it comes to measuring and quantifying the theory how to depict special interest

groups poses a challenge. While a lot of the studies rely on the quite straightforward measure of time since consolidation or democracy as portrayed by Olson's scholar Kwang Choi (1983), nearly each study uses its own measure of interest groups or sclerosis that is not restricted to a single dimension. I decided to make five categories: measure of the age of state or democracy including Choi's index and modifications of it; time since last turmoil, foreign occupation, civil war or general war and measures of severity of past wars; measure of unions including degree of unionization, bargaining strategies and strike impacts; the classical measure of number of interest groups; and a measure of the strength of interest groups[12]. Out of these, the *War measure* turned out to be unsupportive of Olson. Nonetheless, a lot of studies employing such a measure actually dealt intensively with economic costs and effects of war and therefore did not concentrate explicitly on Olson. The papers using some measure of unions showed a greater support share than on average, which does fit the emphasis of Olson on unions and his use of the unionization rate in his regressions. Using the quite widespread measure of number of groups leads researchers to negate the theory more often. Whether the number of groups is actually a fit measure stays open for discussion. All the other measures did not show any substantial bias.

Additionally, I included a category depicting whether those measures accounted for the encompassingness aspect of the theory, which I think is crucial to actually be capable of revealing the true effects of interest groups. Surprisingly, whether encompassingness was accounted for in the process did not show any influence. Again the concept of encompassingness is hard to quantify and I had to rely on the statements of the authors regarding this aspect.

Overall, although the data showed small variations with respect to supporting the theory or not it does not suffice to take this as evidence for straightforward biases in the literature. I often find conflicting results and it is not that clear to me what to make out of it. Especially the length of the period under consideration and the regression method used trouble me. I am confident that the regression on the micro level will help complete the picture and make this inquiry more comprehensive. At

[12] Studies might be present in more than just one category as they often use multiple measures of sclerosis.

least the higher number of observations and the bigger amount of detail should help to accomplish this task.

4.4. "Micro" Level: Procedure and Results

As mentioned earlier I got 237 observations on the micro level. These stem from regressions reported in the papers. I did not record all regression but just those that seemed fit to me and that exhibited some kind of relevance. Nevertheless, again one should keep in mind that a potential bias might have been introduced by this procedure.

I decided to go for a binary logistic model where the dependent variable showed the "success" of the regression. The regression is successful when the coefficient of the variable representing some kind of institutional measure had the (from the author) expected sign and was significant at least at the 10 percent level[13]. Otherwise the dependent variable, which I shall further call *Conclusion*, exhibits a 0. On the micro level I extracted 24 variables (9 dummy variables, 6 categorical and 9 numerical variables, for a detailed description and descriptive statistics see table 3) from the studies that probably could have an impact on the likelihood of success of the regression.

Special importance accrues to the categorical variables that exhibit some of the most central characteristics. As discussed earlier the way in which the variable to test Olson's theory is employed should prove crucial. Especially, since Olson himself did not say too much on this account. The characteristic of encompassingness and the category of institutional measures deserve special attention. Further, the way covariates are measured should show the extent and thoroughness of the underlying empirical model. Taking into account other mechanisms that explain growth allows a proper test. Therefore the number of variables used in the regressions should also have a significant effect. The influence of the variables measuring the different specifications of the Olson model can provide us with valuable information for further research - as do the specifications concerning the measurement of the growth

[13] Whenever now I am talking about the success of a study or regression I thereby mean that the binary dependent variable exhibits a 1 and therefor the sign of the coefficient in question is as expected and the impact is significant.

variable. The number of observations should of course also exhibit a significant impact, since more observations lead to more accuracy.

Table 3: Description of Variables in Micro-Analysis

Variable	Characteristics/statistics	Specification
Conclusion (binary; dependent variable)	(51,9%)	the dependent variable; 1 indicating that the sign in the original regressions was as expected and the impact of the variable significant at least at the 10% level
PerCapita dep. (dummy)	(55,7%)	1 indicating that a per capita measure of growth has been used
Log dep. (dummy)	(2,5%)	1 indicating that the logarithm of the growth measure was taken
Timespan	(min: 5; max: 80; average: 20; std.dev.: 14)	years of observation for the growth measure
Timeintervals	(min: 1; max: 8; average: 1,8; std.dev.: 1,6)	number of intervals the growth measure has been cut to
Startyear	(min: 1902; max: 1985; average: 1967; std.dev.: 16,7)	the starting year of the timespan
# of Countries	(min: 1; max: 132; average: 36; std.dev.: 27,5)	the number of countries considered in the study
Sampletype (categorical)	**OECD (47,3%)** USA (27,4%) LDCs[2]* (11%) **OECD & LCDs[2] (14,3%)**	variable indicating the category of countries under consideration
# of Variables	(min: 1; max: 14; average: 5,4; std.dev.: 3,6)	indicating the number of variables used in the regression (excluding the constant term)
# of Olson Variables	(min: 1; max: 8; average: 1,8; std.dev.: 1,4)	indicating the number of variables ascribed to test Olson's theory in the regression
More Olson Variables (dummy)	(42,6%)	1 indicating that more than one Olson variable was used in the regression
Interactionterm (dummy)	(7,2%)	1 indicating that the Olson variable was included in an interaction term
Log Olson (dummy)	(8%)	1 indicating that the logarithm of the Olson variable was taken
Change Olson (dummy)	(8%)	1 indicating that some kind of change variable was employed to capture the Olson variable
Lag Olson (dummy)	(1,7%)	1 indicating that a lag of the Olson variable has been used
(Adjusted) R^2	(min: 0; max: 0,93;	the reported R^2

	average: 0,47; std.dev.: 0,25)	
Number of Observations	(min: 13; max: 1550; average: 117; std.dev.: 248)	the number of observations of each regression
Author[1] (categorical)	3 (10,1%) 4 (0,4%) 7 (1,7%) 10 (0,8%) 12 (3,4%) 16 (1,3%) 19 (0,8%) 21 (3,8%) 28 (10,1%) 31 (4,6%) 33 (2,5%) 37 (0,4%) 38 (0,4%) 39 (2,1%) 40 (1,3%) 41 (0,8%) 43 (3,8%) 44 (4,2%) 47 (2,1%) 51 (4,2%) 57 (8,4%) 59 (3,8%) 61 (3,4%) 62 (3,4%) 63 (1,7%) 64 (1,7%) 65 (3,4%) 68 (10,1%) 74 (5,1%)	variable indicating the author of the paper the regression was extracted from (according to the authors used in the macro analysis)
Regression Method (categorical)	2SLS* (8,9%) **OLS (68,8%)** GLS (14,3%) Error Component Estimator, WLS or ML* (8%)	variable indicating the regression method that as employed
Datatype (categorical)	Cross Section (84,4%) Panel Data* (5,5%) **Pooled Time Series Cross Section (3,8%)** Pooled Cross Section (3,4%) **Time Series (2,5%)**	variable used to indicate the data type employed
Encompassingness (dummy)	(33,6%)	1 indicating that the Olson variable was chosen with regard to encompassingness
LogLog (dummy)	(1,7%)	1 indicating that a log log relationship between Olson variable and growth measure was employed
Sclerosis Measure (categorical with multiple answers)		variable indicating the type of Olson variable that was used to test for institutional sclerosis
	Years (22,4%)	entailing all measures of the years since consolidation or statehood, but not too modified
	Institutional (11,8%)	entailing all measures related to the institutional setup of a country including measure of democracy
	Age Wars* (2,1%)	entailing all measures related to the age since the last war, foreign occupation or internal turmoil
	Warseverities* (2,5%)	entailing all measures related to war severities

	Numb.Groups (13,1%)	entailing all measures related to the number of interest groups such as relative measures or per capita measures
	Choi's Index (8,4%)	entailing all measures of years and age since statehood or democratization adjusted for periods of turmoil
	Unions (19,8%)	entailing all measures of unionization, such as the degree, power or coverage
	Business (4,6%)	entailing all measure of business groups and their power
Covariates (categorical with multiple answers)		variable indicating the type of covariates that have been used
	Catchup* (54,9%)	entailing all measures of the catch up hypothesis
	Education (17%)	entailing all measures of the educational level
	State* (44,3%)	entailing all measures regarding the state such as expenditures, taxes, subsidies, its power or its extent
	Population* (9,3%)	entailing all measures of the population of a state and its employment rate
	Dummies (8,9%)	entailing all dummies that were employed in regression to control for something
	Political (18,1%)	entailing all measures of the political attitude of a unit
	Urban (8,4%)	entailing all measures of the degree of urbanization
	Investment (19,4%)	entailing all measures of the extent of investment
	Putnam (2,5%)	entailing all measures of membership in Putnamgroups

The numbers in parenthesis indicate the percentage of regressions that exhibit that trait.
*An asterix marks that the variable has been not considered in the process of finding the regressors due to being not significant in stepwise regression conducted on each categorical variable beforehand. Those variables written in **bold** letters ended up in the main regression.
[1] Numbers again refer to table 2.
[2] LDCs here stand for less developed countries.

Some variables resemble those that have already been used in the macro testing. However, I hope that through this analysis more light can be shed on controversial or unclear issues. I expect the more advanced regression methods (meaning other than OLS) and the more comprehensive measures of the sample type, like pooled and times series data to have a significant impact. Further, the time variables will help to clarify the concerns offered before. Again a significant impact is expected.

The authors variable can somehow be seen as displaying certain characteristics of fixed effects or clusters. In addition heteroscedastic errors are to be expected. Therefore, robust standard errors are used to ensure undistorted confidence intervals and valid testing of hypotheses[14].

For conducting my analysis I turned the categorical variables into dummy variables. This of course then resulted in a considerable amount of covariates (49) that in addition exhibited substantial multicollinearity which made regression using all of them impossible. Therefore, I ran binary logistic models with stepwise regression and robust standard errors on each categorical variable only to exclude insignificant variables. Beforehand, I made sure that the regression was not prone to multicollinearity. Those that were excluded due to stepwise regression are marked with an asterix in table 3. I then went on and tried to fit the rest of the variables into a regression without being it subject to multicollinearity. I added and excluded variables until no such problems were present. Of course, since the data is so intertwined a lot of variables were causal for multicollinearity. Hence, I finally decided to leave the authors out of the regression ensuring that significance was not undermined. However, the author variable was already examined at the macro level and should not have too much of an impact at the micro level since it is fixed for all observations. Through the testing I was left with 22 variables that were save to be employed in a binary logistic regression with robust standard errors. The results of a regression with these 22 variables are presented in table 7 below.

First, I would like to go through binary logistic models of the *Conclusion* variable on the categorical variables as I think it will offer us additional information and already extracted information is not wasted. I will neither run regressions on *Author* for reasons discussed above nor on the *Datatype* as this category is sufficiently represented in the main regression. As indicated above I checked for multicollinearity and employed robust standard errors. The specification in table 7 has also been tested with a probit model and results are robust on this account.

Keep in mind when reading the results that interpretation is only valid on average, expected terms and ceteris paribus.

[14] For more on the topic of (cluster) robust standard errors and probit or logit models see for example Carrillo and Emran (2012)

Regression-Method

Table 4: Binary Logistic Regression of *Conclusion* on *Regression-Methods*

Parameter		Regression Coefficient		Significance Level	
(reference: OLS)					
constant		0,234		0,138	
2SLS		0,053		0,909	
GLS		-1,256***		0,003	
Error Component Estimator or WLS		0,084		0,864	
Chi^2	10,589 (0,005)	Hosmer & Lemeshow (Chi^2)	0,000 (1,000)	Overall percentage estimated right	58,6%
-2 Log-Likelihood	317,591	Cox & Snell R^2	0,044	Nagelkerkes R^2	0,058

Binary logistic regression with robust standard errors conducted with SPSS.
The asterix indicate significance levels: *=0,1, **=0,5 and ***=0,01 respectively.
N=237

When looking at table 4 and the differences concerning the regression methods used it becomes apparent that the only method having a significant effect on the success of a regression compared to *OLS* is *GLS*, but this effect is negative. Although not significant the *2SLS* method exhibits a positive impact on results compared to *OLS*. Therefore, the issues raised beforehand can be disregarded as the 2SLS increases ceteris paribus the expected likelihood of results compared to *OLS*. When considering that *2SLS* is used when endogeneity problems arise with *OLS* and should therefore be more sophisticated this might speak for accepting Olson's theory.

Sampletype

Table 5: Binary Logistic Regression of *Conclusion* on *Sampletype*

Parameter	Regression Coefficient	Significance Level
(reference: OECD)		
constant	-1,179***	0,004

OECD&LDCs		2,095***		0	
USA		-1,258***		0	
LDCs		-1,727***		0	
Chi^2	36,762 (0,000)	Hosmer & Lemeshow (Chi^2)	0,000 (1,000)	Overall percentage estimated right	51,9%
-2 Log-Likelihood	291,448	Cox & Snell R^2	0,144	Nagelkerkes R^2	0,192

Binary logistic regression with robust standard errors conducted with SPSS.
The asterix indicate significance levels: *=0,1, **=0,5 and ***=0,01 respectively.
N=237

The meta-regression conducted on the *sampletype* used in the initial regression exhibits a bad model-fit and the conclusions therefore are not very resilient. Nevertheless, all variables prove significant. As expected the categories other than *OECD* show a negative impact on the likelihood of success. This comes somewhat surprisingly in the case of the USA, since Olson himself tested the theory using the USA. However, critics have claimed that his theory concerns nations not states (Maddison, 1988, p. 29). Interestingly a mixture of OECD and LD-countries influences the likelihood of success positively compared to just using OECD countries. This contradicts the results from the macro level.

Sclerosis Measure

Table 6: Binary Logistic Regression of *Conclusion* on *Sclerosis Measure*

Parameter	Regression Coefficient	Significance Level
constant	0,223	0,506
Choi‘s Index	1,511**	0,033

Years		0,278		0,527	
Institutional		-1,139**		0,034	
Age Wars		0,182		0,851	
Warseverities		0,47		0,613	
Unions		-0,181		0,685	
Business		-0,783		0,271	
Numb. Groups		-0,965*		0,058	
Chi^2	25,176*** (0,001)	Hosmer & Lemeshow (Chi^2)	0,000 (1,000)	Overall percentage estimated right	62,9%
-2 Log-Likelihood	303,034	Cox & Snell R^2	0,101	Nagelkerkes R^2	0,134

Binary logistic regression with robust standard errors conducted with SPSS.
The asterix indicate significance levels: *=0,1, **=0,5 and ***=0,01 respectively.
N=237

When only including the different measures of institutional sclerosis (table 6) in the regression we see that just three of them seem to be significant and only half of them when employed tend to increase the likelihood of a "successful" impact. The other half actually decreases this likelihood and two of these are significant. Since the number of groups might not be the best way to test Olson's theory this result might not come as a surprise. The negative sign of *Institutional* does not meet the expectations made beforehand. If we assume that the institutional measure would fit better than other sclerosis measures to capture the essence of Olson's theory then this result would indicate some inconsistence in the theory. Interestingly, studies using the same measure as Olson himself did find relatively more success than the others. However, the Cox &Snell R^2 is not impressive and neither is Nagelkerkes, although all coefficients together prove significant.

Covariates

Table 7: Binary Logistic Regression of *Conclusion* on *Covariates*

Parameter	Regression Coefficient	Significance Level
constant	0,194	0,454
Catchup	0,233	0,41

Education		0,908**		0,088	
State		0,012		0,973	
Population		-0,259		0,656	
Dummies		1,301**		0,017	
Political		-0,27		0,473	
Urban		-1,3**		0,018	
Investment		-1,369***		0,001	
Putnam		-23,763**		0,061	
Chi^2	31,851 (0,000)	Hosmer & Lemeshow (Chi^2)	- [1]	Overall percentage estimated right	66,2%
Log-Likelihood	-62,610	Cox & Snell R^2	-[1]	Nagelkerkes R^2	-[1]

Binary logistic regression with robust standard errors conducted with SPSS.
The asterix indicate significance levels: *=0,1, **=0,5 and ***=0,01 respectively.
[1] When conducting the analysis the program warned that there might be a problem with an almost complete separation of the data leading to an uncertain validity of the goodness-of-fit criteria of the model. Therefore these criteria are not reported.
N=237

Regarding table 7 five of the covariates used in the regressions prove significant. Remarkably, those that seem to be important to control for when testing Olson's theory, namely the state and the catchup variable, turn out insignificant. *Investment* when controlled for exhibits other things equal on average a negative impact on the likelihood of success of the regression, as does the Putnam variable. *Education* and *Dummies* on the other hand positively influence the results.

Main regression

With the procedure reported above I arrived at the following result.

Table 7: Binary Logistic Regression of *Conclusion* on Selected Variables

Parameter	Regression Coefficient	Significance Level

constant		2,119		0,281	
PerCapita dep.		-0,484		0,339	
Timespan		-0,204***		0,005	
# of Variables		-0,062		0,594	
More Olson Variables		-0,14		0,858	
OLS		0,79		0,448	
Choi's Index		1,408**		0,09	
Business		0,993		0,224	
Numb. Groups		-0,78		0,39	
Encompassingness		-4,213***		0	
Change Olson		-0,095		0,898	
Log Olson		1,094		0,332	
Lag Olson		-2,585**		0,034	
LogLog		19,131***		0	
Interactionterm		1,699		0,141	
Education		1,348*		0,055	
Investment		-1,063		0,135	
Urban		2,173**		0,019	
Number of Observations		0,003**		0,01	
Pooled Time Series Cross-Section		4,688***		0,003	
Time Series		1,367		0,443	
OECD		2,547***		0,003	
OECD&LDCs		1,279*		0,06	
Chi^2	132,968 (0,000)	Hosmer & Lemeshow (Chi^2)	-[1]	Overall percentage estimated right	80,3%
Log-Likelihood	-73,074	Cox & Snell R^2	-[1]	Nagelkerkes R^2	-[1]

Binary logistic regression with robust standard errors conducted with SPSS.
The asterix indicate significance levels: *=0,1, **=0,5 and ***=0,01 respectively.
[1] When conducting the analysis the program warned that there might be a problem with an almost complete separation of the data leading to an uncertain validity of the goodness-of-fit of the model. Therefore these criteria are not reported.
N=237

From the 22 employed variables ten show significant results at least at the 10% level[15]. The one regarding the growth measure, *Per Capita*, shows a negative

[15] The goodness of fit criteria might not be reliable, since we do not compare models however, it does not matter too much. The overall percentage estimated right can be assessed and lies at 80,3%.

influence on the odds of success although it is not significant. More interestingly, *Timespan* is significant and too shows a negative influence. This result matches the one already obtained earlier in the macro analysis indicating that studies using a shorter period of time show more support for Olson's theory.

The characteristics concerning the broad setup of the regression *(# of Variables, More Olson Variables* and *OLS*) do not exhibit a significant impact on the likelihood of success.

From the measures used to indicate the effect of institutional sclerosis the measure also used by Olson, *Choi's Index*, again was significant and has a positive impact on the odds ratio. Using such a measure keeping everything else constant increases the odds of the coefficient showing a significant and expected sign by 300%. That is quite influential and interestingly the other measures, *Business* and *Numb. Groups,* were not significant.

As expected the variable indicating whether an encompassing measure was used or not is significant, although the impact it exerts is negative and quite tremendous. This indicates that using an encompassing measure of the sclerotic effect does not lead to a "successful" regression. The variable *Lag Olson* is significant too and again negative although showing a somewhat less tremendous effect as the encompassingness dummy.

Measuring the effect of institutional sclerosis on growth in a log-log relationship shows a strong influence on the success of the regression, but since only four regressions exhibit this characteristic the conclusions drawn out of this are not stable.

Using as covariates *Urban* and *Education* leads to a significantly higher likelihood of accepting Olson's theory. It is however unclear why these two exhibit such a strong influence.

I would have expected that *Number of Observations* has a positive influence on the outcome, since the more observations the better. The variable proves significant but the impact is vanishingly small.

The effect of using pooled time series cross section data is significant, but again the number of regressions (9) employing such data is not expressive.

Last but not least, the impact of the sample was assessed. The regressions using OECD data or a mixture of OECD and LDCs data positively influence the likelihood of success. This is interesting since the theory of Olson was especially meant for

OECD countries. On the other hand, the coefficient of *OECD&LDCs* again contradicts the earlier findings on the macro level. Since the micro level is more detailed more weight is put on the finding presented here.

Combining the results from the macro and micro level leads to the subsequent conclusions. Studies employing a shorter time span between 16 and 25 years find relatively more support for the theory. Further, using data from OECD countries and somewhat more complex data than cross sectional ones leads to more support. Opting for OLS rather than GLS or 2SLS enhances a positive outcome. When comparing the measures, those studies displaying some kind of age and democracy measure such as Choi's index find more support for the theory, whereas the use of the number of interest groups leads to the opposite. If the sclerotic effect displays some degree of encompassingness less support is found in the results. Studies tend to show support for the theory when they control for education and urbanization as being decisive for growth. Generally, studies published between 2005 and 2012 exhibit more supportive findings, as do those comparing fewer countries at once.
This however does not entail any information on whether the theory proposed by Olson is true or not. The above findings indicate that there are certain characteristics of the studies and the employed regressions that lead to diverging results. Although there were several biases introduced into the analysis and not all results might be as resilient as hoped, we still can take the above as knowledge about parts of the roots of this divergence. It seems that approaches using more complex procedures and structures show less support. It needs to be assessed how this can be reconciled with the findings and indications given by the theory and its discussion above.

5. Conclusion

This study has provided a comprehensive overview and empirical assessment of the theory proposed by Mancur Olson. Through the criticism offered on his thoughts and the study of papers trying to test his implications useful insights can be gained.
Olson's accounts on collective action and the conclusions drawn for the disadvantaged large groups prevail even when complemented with more literature and more detailed description of circumstances. The extension of his considerations

to the formation of a landscape of interest groups and its impact on growth suffered from more weaknesses. My conjecture is that the fact that there are no "mono-causal" explanations needs to be highlighted. Olson's theory might not be the universal explanation (as imagined by him) but it nevertheless is very informative on certain channels and mechanisms. I would argue that it is essentially again a theory of power and power relations represented by interest groups. Therefore, the focus on growth solely is too narrow since the asymmetric distribution of power in the form of special interest groups generally has impacts that are distortive and divisive on society and its institutional norms and hence influences its economic well-being. Consequently, institutional settings and matters are crucial and should not be neglected. Olson's theory is a calling to get one's institutions right to enable a "fair" and flourishing society. He states:

> "The spontaneous individual optimization that drives the theories with which I began is important, but it is not enough by itself. If spontaneous Coase-style bargains, whether through laissez-faire or political bargaining and government, eliminated socially wasteful predation and obtained the institutions that are needed for a thriving market economy, then there would not be so many grossly inefficient and poverty-stricken societies." (Olson, 2003, p. 51)

The findings derived from the empirical analysis complement the above said. Overall I would conclude that those regression approaches that try to use a more comprehensive specification to test the theory tend to find unsupportive results concerning the relationship between institutional sclerosis and growth. The studies that follow the initial example given by Olson and that use a simpler empirical model with less of a comprehensive approach show supportive findings. This could indicate that a) the higher degree of complexity in the former models obscures the outcomes as the theory proposed by Olson cannot simply be fitted in a regression approach or b) that Olson's theory cannot be supported. As I do not take Olson's theory to be completely wrong I think proposition a) is right. I suggested earlier that the high degree of complexity present and the different ways and mechanisms that are at work in the theory call for a more comprehensive approach when wanting to test the theory. Olson himself has not taken such an approach and has been strongly

criticized for it. This begs the question whether the proposed theory can be tested at all. Although studies fulfilled a lot of criteria that were recommended earlier in chapter 3 they did not show more support but actually less (at least in the model developed here). I am still of the opinion that a too simple model would not do justice to test the complete theory. However, maybe central channels or parts of it can be verified using such a simple approach. They then would need to be embedded into a thorough discussion of the institutional setting. These results show that complex questions regarding topics such as institutions, growth or collective action cannot be captured properly by statistical methods at least not with the current data restrictions. Additional research concerning complex systems is needed and can then complement or be complemented with empirical findings.

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Appendix

Table 1.1: Detailed Description of the Search Process for Studies

Search engine /source	Keywords	Field Restrictions	Number
Jstor	**in the title:**		
	Olson, growth		39, 51, 10, 24
	Olson, prosperity		no results
	Olson, performance		no results
	Olson, state		no results
	institutional sclerosis, growth		no results
	institutional sclerosis, prosperity		no results
	institutional sclerosis, performance		no results
	institutional sclerosis, state		no results
	interest group(s), growth		16, 47, 21, 31, 32, 46, 5, 28, 49
	interest group(s), prosperity		no results
	interest group(s), performance		33
	interest group(s), state		29
	distributional coalition(s), growth		61, 59, 68
	distributional coalitions, prosperity		no results
	distributional coalitions, performance		no results
	distributional coalitions, state		59
	encompassing(ness), growth/prosperity/performance /state		no results
	special interest coalitions, growth/prosperity/performance /state		no results
	pressure group(s), growth/prosperity/performance /state		no results
	economic group(s), growth/prosperity/performance /state		no results
	interest coalition, growth/prosperity/performance /state		no results
Scopus *	**in title/abstract/keywords:**		
	Olson, growth		8, 11, 27, 20

	Olson, growth	Economics, Econometrics and Finance, Mathematics, Social Sciences, Multidisciplinary, Undefined	1, 42, 60, 55, 67, 62, 10, 66
	institutional sclerosis, growth		3, 15, 48, 9, 43, 9
	interest group(s), growth	Economics, Econometrics and Finance, Mathematics, Social Sciences, Multidisciplinary, Undefined	17, 18, 27, 32, 33, 46, 53, 56, 58, 71, 72
	distributional coalition(s), growth		65, 22
	encompassing(ness), growth		no results
	special interest coalitions		no results
	pressure group(s), growth	Economics, Econometrics and Finance, Mathematics, Social Sciences, Multidisciplinary, Undefined	25
	interest coalition, growth		no results
	economic group(s), growth		no results
	rent-seeking, growth, Olson		64, 23, 7, 2
EconLit**	**in query + (NOT au (author): Olson)**		
	Olson, growth		60, 45, 7, 1, 40, 33 ,4, 54, 30, 13, 34
	institutional sclerosis, growth		no results
	interest group(s), growth		72, 18, 6, 36
	encompassing(ness)	no results	
	encompassing group(s)	no results	
	distributional coalition(s)	no results	
	pressure group(s)	no results	
	economic group(s)	no results	
additional literature through Heckelman (2007)			12, 19, 26, 37, 38, 41, 44, 50, 57, 63, 69, 74
additional literature through cross reading			75, 76, 77, 78, 79, 80

Generally some papers are double which was of course adjusted for later. The numbers relate to table 2.

*As the search process with Scopus and EconLit was much easier I resigned from searching all the keywords proposed by the search process with Jstor.
** I excluded books and collective volumes as well as papers that were not accessible to me.

Table 1.2: Studies considered in the overall process

#[1]	Author	Title	Year	Considered[2]	Reason[3]
1	Ahmed, Pulok	The Role of Political Stability on Economic Performance: The Case of Bangladesh	2013		1
2	Bénabou	Inequality and Growth	1996		1
3	Berggren, Bergh, Bjørnskov	The Growth Effects of Institutional Instability	2009	x	
4	**Bernholz**	**Growth of Government, Economic Growth and Individual Freedom**	**1986**	**x**	
5	Brace, Cohen, Gray, Lowery	How Much Do Interest Groups Influence State Economic Growth?	1989		2
6	Cairns	Dynamic Rent Seeking	1989		2
7	Caporale, Leirer	Take the Money and Run: Political Turnover, Rent-seeking and Economic Growth	2010	x	
8	Castles	Democratic Politics, War and Catch-up: Olson's Thesis and Long-term Economic Growth in the English-speaking Nations of Advanced Capitalism	1991		5
9	Castles,Dowrick	The Impact of Government Spending Levels on Medium-term Economic Growth in the OECD, 1960-85	1990		5
10	Chan	Growth with Equity: A Test of Olson's Theory for the Asian Pacific-Rim Countries	1987	x	
11	**Chan**	**The Differential Impact of the Cultural Revolution on Chinese Provincial Industrial Growth: Some Evidence on Olson's Theory of Distributional Coalitions**	**1990**		**5**

12	**Choi**	**A Statistical Test of Olson's Model**	**1983**	**x**	
13	Chong, Zanforlin	Inward-looking Policies, Institutions, Autocrats, and Economic Growth in Latin America: An Empirical Exploration	2004		1
15	Coates, Wilson	Interest Group Activity and Long-run Stock Market Performance	2007		4
16	Coates, Heckelman, Wilson	Special-Interest Groups and Growth	2011	x	
17	Coates, Heckelman, Wilson	Special-Interest Groups and Volatility	2007		4
18	Cole	Interest group Activity and Economic Growth: Some New Evidence from the US States	2015		3
19	**Crain, Lee**	**Economic Growth Regressions for the American States: A Sensitivity Analysis**	**1999**	**x**	
20	Crepaz	Constitutional Structures and Regime Performance in 18 Industrialized Democracies: A Test of Olson's Hypothesis	1996		1
21	Dincer	Special Interest Groups and Economic Growth in the United States	2012	x	
22	Faith, Short	Bureaucratic Tenure and Economic Performance in Centrally Planned Economies	1995		1
23	Fogel	Oligarchic Family Control, Social Economic Outcomes, and the Quality of Government	2006		1
24	**Garand**	**Changing Patterns of Relative State Economic Growth over Time: Limitations on Cross-Sectional Tests of Olson's Thesis**	**1992**		**3**
25	Garrett, Wheelock	Why Did Income Growth Vary across States during the Great Depression?	2006		1
26	**Goldsmith**	**Does Political Stability Hinder Economic Development? Mancur Olson's Theory and theThird World**	**1987**		**2**
27	Goldsmith	Democracy, Political Stability, and Economic Growth in Developing Countries: Some Evidence on Olson's	1986		5

		Theory of Distributional Coalitions			
28	Gray, Lowery	Interest Group Politics and Economic Growth in the U.S. States	1988	x	
29	Gray, Lowery	The Density of State Interest Group Systems	1993		4
30	Gwartney, Holcombe, Lawson	Economic Freedom, Institutional Quality, and Cross-country Differences in Income and Growth	2004		1
31	**Heckelman**	**Consistent Estimates of the Impact of Special Interest Groups on Economic Growth**	**2000**	**x**	
32	Heckelman, Wilson	Interest Groups and the "Rise and Decline" of Growth	2014		4
33	Horgos, Zimmermann	Interest Groups and Economic Performance: Some New Evidence	2009	x	
34	Hoyman, McCall, Paarlberg, Brennan	Considering the Role of Social Capital for Economic Development Outcomes in U.S. Counties	2016		4
36	Ifere, Doki	Do Institutions and Social Capital matter in the Economic Development of Nigeria?	2017		2
37	**Kang, Meernik**	**Civil War Destruction and the Prospects for Economic Growth**	**2005**	**x**	
38	**Knack, Keefer**	**Does Social Capital Have an Economic Payoff? A Cross-Country Investigation**	**1997**	**x**	
39	**Knack**	**Groups, Growth and Trust: Cross-Country Evidence on the Olson and Putnam Hypotheses**	**2003**	**x**	
40	**Koubi**	**War and Economic Performance**	**2005**	**x**	
41	**Landau**	**Government Expenditure and Economic Growth in the Developed Countries: 1952-76**	**1985**	**x**	
42	Landau	A Simple Theory of Economic Growth	2003		2
43	Lane, Errsson	Politics and Economic Growth	1987	x	
44	**Lange, Garrett**	**The Politics of Growth: Strategic Interaction and Economic Performance in the Advanced Industrial Democracies, 1974-1980**	**1985**	**x**	

45	Maddison	Ultimate and proximate growth causality: A critique of Mancur Olson on the rise and decline of nations	1988		2
46	Maitland	Interest Groups and Economic Growth Rates	1985		2
47	**McCallum, Blais**	**Government, Special Interest Groups, and Economic Growth**	**1987**	**x**	
48	Murrell, Olson	The Devolution of Centrally Planned Economies'	1991		1
49	Murrell	Comparative Growth and Comparative Advantage: Tests of the Effects of Interest Group Behavior on Foreign Trade Patterns	1982		2
50	**Nardinelli, Wallace, Warner**	**State Business Cycles and Their Relationship to the National Cycle: Structural and Institutional Determinants**	**1988**		**4**
51	**Nardinelli, Wallace, Warner**	**Symposium on Olson 1: Explaining Differences in State Growth: Catching up versus Olson**	**1987**	**x**	
53	O'Reilley, Powell	War and the Growth of Government	2015		4
54	Quiggin	Testing the Implications of the Olson Hypothesis	1992		2
55	Rama	Rent Seeking and Economic Growth. A Theoretical Model and Some Empirical Evidence	1993		1
56	Ramirez de la Cruz	Local Political Institutions and Smart Growth	2009		1
57	**Scruggs**	**The Politics of Growth Revisited**	**2001**	**x**	
58	Sobel, Clark	Interest Group Activity and Government Growth: A Causality Analysis	2016		4
59	**Tang, Hedley**	**Distributional Coalitions, State Strength, and Economic Growth: Toward a Comprehensive Theory of Economic Development**	**1998**	**x**	
60	Unger, Van Waarden	Interest Associations and Economic Growth: A Critique of Mancur Olson's Rise and Decline of Nations	1999		2

61	**Vedder, Gallaway**	**Rent-Seeking, Distributional Coalitions, Taxes, Relative Prices and Economic Growth**	**1986**	**x**	
62	**Wallis, Oates**	**Does Economic Sclerosis Set in with Age? An Empirical Study of the Olson Hypothesis**	**1988**	**x**	
63	**Weede**	**Rent Seeking, Military Participation, and Economic Performance in LDCs**	**1986 b**	**x**	
64	**Weede**	**Democracy, Creeping Socialism, and Ideological Socialism in Rent-seeking Societies**	**1984**	**x**	
65	Weede	Legitimacy, Democracy, and Comparative Economic Growth Reconsidered	1996	x	
66	**Weede**	**Sectoral Reallocation, Distributional Coalitions and the Welfare State as Determinants of Economic Growth Rates in Industrialized Democracies**	**1986 c**		**5**
67	Weede	The Impact of State Power on Economic Growth Rates in OECD Countries	1991		5
68	Weede	Catch-up, Distributional Coalitions and Government as Determinants of Economic Growth or Decline in Industrialized Democracies	1986 a	x	
69	**Whitely**	**The Political Economy of Economic Growth** (Whitely, 1983)	**1983**		**5**
71	Yamamura	Groups and Information Disclosure: Evidence on the Olson and Putnam Hypotheses in Japan	2011		4
72	Zaratiegui	Interest Groups and Government Growth in Spain During Franco's Dictatorship (1939-1975)	2004		1
74	**Coates, Heckelman**	**Absolute and relative effects of interest groups on the economy**	**2003**	**x**	
75	Dye	Taxing, Spending, and Economic Growth in the American States	1980		1
76	Barro	Economic Growth in a Cross Section of Countries	1991		1
77	Barro, Sala-i-Martin	Technological Diffusion, Convergence, and Growth	1997		1

78	Clague, Keefer, Knack, Olson	Property and Contract Rights in Autocracies and Democracies	1996	1
79	Shughart, Tollison, Yan	Rent Seeking Into the Income Distribution	2003	4
80	Kugler, Arbetman	Exploring the "phoenix factor" with the Collective Goods Perspective	1989	4

The papers in **bold** letters were also represented in Heckelman's (2007) meta-analysis.

[1] Not all numbers from 1 to 80 are represented, some are missing since in the coding and analysis process certain papers did drop out or were previously counted double. Therefore, also the alphabetical order is not completely correct.

[2] An "x" in this column indicates that the study has been used in the analysis

[3] This column gives the reason why the study has been excluded for analysis. The study…

1 …is not considering the theory of Olson under consideration (in much detail)/ does not exhibit a clear reference to Olson's theory.

2 … does not entail clear and detailed regression analysis.

3 …employs regression analysis that is too complex for comparison.

4 …uses a dependent variable that does not exactly measure growth.

5 …was not accessible for me.