

CHAPTER 1

WHAT IS A GREAT POWER?

Most international relations scholars assume that there is a set of countries, called Great Powers, that have a greater effect on world politics than all of the other countries combined. Political scientists focus a great deal of attention on the consequences of the rise and decline of such countries. This dissertation proposes a theoretical framework for understanding the causes of the relative rise and decline of Great Powers. Before proposing such a framework, I will survey the literature concerning, first, the definition of the term “Great Power”, and second, previous theories of the rise and decline of Great Powers.

Because of the importance of the Great Powers in the international political system, political scientists emphasize the importance of Great Powers. For example, Waltz states that “the number of consequential states is small. From the Treaty of Westphalia to the present, eight major states at most have sought to coexist peacefully or have contended for mastery. Viewed as the politics of the powerful, international politics can be studied in terms of the logic of small-number systems” (Waltz 1979, 131). For Gilpin, “Both individually and in interaction with one another, those states that historically have been called the great powers and are known today as the superpowers establish and enforce the basic rules and rights that influence their own behavior and that of the lesser states in the system” (Gilpin 1981, 30). Gilpin also quotes Raymond Aron to the effect that “the structure of international systems is always oligopolistic. In each period the principal actors have determined the system more than they have been

determined by it” (Gilpin 1981, 29). Morgenthau’s concern with the balance of power is always focused, in his historical examples, on “first-rate” powers (Morgenthau 1973).

Martin Wight states that “the most conspicuous theme in international history is not the growth of internationalism. It is the series of efforts, by one power after another to gain mastery of the states-system – efforts that have been defeated only by a coalition of the majority of other powers at the cost of an exhausting general war” (Wight 1978, 30).

While not all of international affairs can be explained in terms of the Great Powers, it is impossible to understand most of history or current global processes without considering the Great Powers.

Since the set of countries that are known as the Great Powers have a preponderant influence on the processes of international relations, it would seem reasonable to know how a Great Power is defined. While “the state” has normally been introduced as the main unit of analysis in international political scholarship, the focus on Great Powers has in fact superseded the attention given to “the state”, conceived of as an abstract entity. However, the definition of a Great Power has been problematic. In almost all cases, the final list which is chosen for various historical epochs seems to be intuitive, and thus not open to a scientific discussion of merits. In any scientific endeavor, the unit of analysis should be carefully specified, or else there is no basis on which a discussion among researchers can take place. Ideally, the definition of the most important unit of analysis within an area of study should be consistent with, if not integral to, the theory of which it is a part.

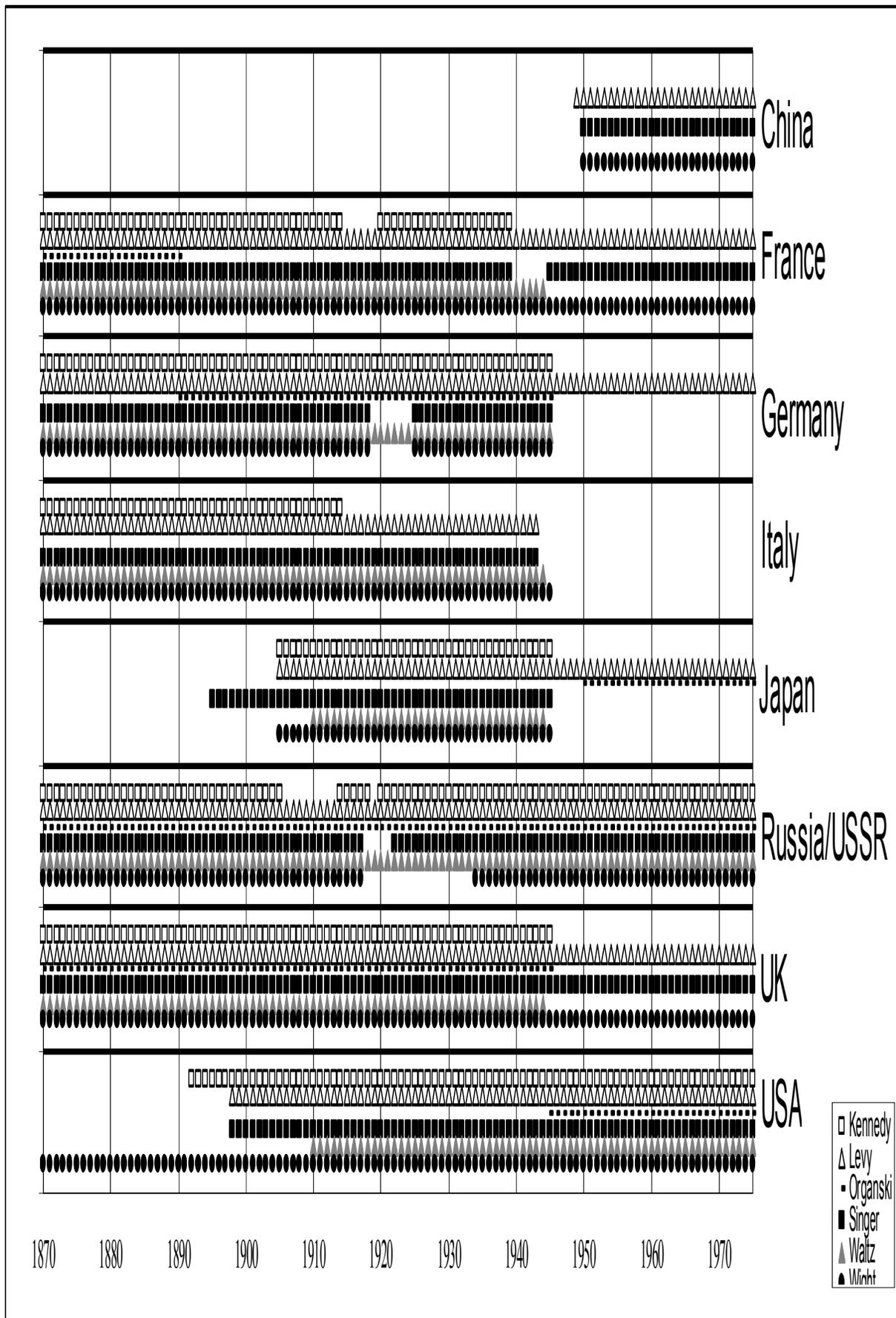
There are two major criteria in the international relations literature that is used to specify when a particular country was a Great Power. First, there is the alleged

“consensus” choice; everybody agrees that a particular state was a Great Power during a specific period of time. Second, a list of the capabilities that characterize national power is presented, and a threshold level is discerned which differentiates a Great Power from a non-Great Power. This dividing line is almost never specified.

Criterion 1: Consensus

Figure 1 shows the list of Great Powers, for the period 1870 to approximately the 1980s (depending on the author). Each author has his own term for Great Power, but many also have terms for several different kinds of Great Power. Figure 1 shows that among these six authors, there is certainly no consensus, except for short time periods. What are the bases for their choices?

Singer and Small claim that “we do achieve a fair degree of reliability on the basis of ‘intercoder agreement’. That is for the period up to World War II, there is high scholarly consensus on the composition of this oligarchy” (Singer and Small 1972). In a later statement, Singer and his co-authors state that “we emphasize that our criteria – quite intentionally – are less than operational. That is, rather than define the major power sub-system over time in terms of certain objective power and/or prestige indicators, we adhere to the rather intuitive criteria of diplomatic historians” (Singer, Bremer, Stuckey 1972). It is never demonstrated that diplomatic historians have either a consensus or “intuitive” criteria. If anything, historians such as Paul Kennedy look to political scientists for theory. Historians in general tend to concentrate on the time period before World War I, and almost never venture in their studies beyond 1945; on the other hand,



political scientists do most of their scholarly work for the period after 1945, leaving the interwar period as a kind of scholarly orphan.

Waltz also states that there is a consensus of historians. For Waltz, “Historically, despite the difficulties, one finds general agreement about who the great powers of a period are, with occasional doubt about the marginal cases...Counting the great powers of an era is about as difficult, or as easy, as saying how many major firms populate an oligopolistic sector of an economy. The question is an empirical one, and common sense can answer it” (Waltz 1979, 131). The reader is not informed of the reasons behind the construction of his list, because it is “adapted from Wright, 1965, Appendix 20, Table 43” (Waltz 1979, 162). Table 43 of Appendix 20 of Quincy Wright’s “A Study of War” is a list of wars entitled “Participation of Powers in General Wars, 1600 – 1941”. Wright gives no criteria for defining a war as general, and at the end of the list he states that “This summary indicates that, with very few exceptions, all the great powers of the time participated in each of these general wars” (Wright 1965, 649); thus, who was a Great Power seems to be assumed. The status of various states is then treated in clauses: “Austria, which ceased to be a great power in the twentieth century...Prussia, which became a great power in the eighteenth century...Russia which became a great power in the eighteenth century, and Italy...which did not become a great power until the nineteenth century...Japan and the United States did not become great powers until the twentieth century” (Wright 1965, 649). Apparently France and England were Great Powers throughout history.

This grouping of Great Powers was also followed by Spiegel, who on page 118 alludes to a footnote 20 in chapter three of his book, which reads: “These calculations of

great powers are based on W.T.R. Fox's interpretation" of Appendix 20, table 43 "as used in Government G6801X 'Systemic World Politics,' Fall 1969, Columbia University" (Spiegel 1972). Unfortunately, the rest of the scholarly community did not attend G6801X, and consequently we do not know why these countries were chosen. Thus it would appear that there are certain groups of scholars, each with his own "intuitive" list; one is derived from Singer, the other is centered on Quincy Wright.

Martin Wight is both forthright about his ignorance and mistaken about the scholarly consensus. "What is a Great Power?" he asks, then answers: "This is one of the central questions of international politics. It is easier to answer it historically, by enumerating the great powers at any date, than by giving a definition, for there is always broad agreement about the existing great powers." (Wight 1978, 41). He then presents his list. He defines two sorts of "powers": "As a dominant power is a power that can confidently contemplate war against any likely combination of other powers, so a great power is a power that can confidently contemplate war against any other existing single power" (Wight 1978, 52-53). Von Ranke (1833) called a "Great Power" that which Wright labeled a "dominant power". We are never given an argument as to what criteria would allow one to "confidently" predict the performance of one power against another.

Organski and Kugler also use several definitions. Since they are trying to explain why major wars occur, they need to know which states are major powers: "The elite nations are few enough to stand out clearly from the rest of the members of the international system on such critical dimensions as population, economic productivity, and military might; international relations specialists have long agreed on their identity" (Organski and Kugler 1980, 42). They then give a general list based on Singer.

However, they enumerate three kinds of major power. I have graphed only one kind: contending powers.¹ Their recipe for constructing a list is that “the most powerful nation in the world at any given time is always a member of the contending class. Any other nation whose score is at least as high as 80 percent of the capabilities of the strongest nation would also be considered a contender. When no other nation in a given period met this criterion, we considered as contenders the three strongest nations in the system” (Organski and Kugler 1980, 44).

Sophisticated statistical processes were carried out in an effort to substantiate international relations theory based on arbitrary numbers like 80% and the number 3. But apparently there are more “intuitive” criteria; Organski and Kugler maintain that the U.S. was not a contender until 1945, despite the fact that this contradicts their previous criteria: “She appears on this list only with World War II because it was not until then that she had come to view herself as part of the central system.” (Organski and Kugler 1980, 45).

The most exhaustive analysis of previous definitions of the term “Great Power” was undertaken by Levy, who sets out a series of criteria, and then makes an effort to apply these criteria to the various Great Powers. Most of the criteria are rather vague, such as differentiating Great Powers based on their “behavior” (Levy 1983, 17) or their “interests” (Levy 1983, 16), or else consisting in part of other states’ perceptions of the Great Powers. Perception is important in explaining foreign policy, but should not be part of a definition of Great Power because such a definition should be based on objective factors. This does not mean that the objective criteria will lead to an infallible ability to predict outcomes, but simply that by distinguishing between subjective and objective

factors, scholars may be in a position to separate the resources that states have available to them from the ways in which states use those resources in foreign policy.

A parable might be useful in showing the need to focus on objective criteria for determining Great Power status. Suppose that, on an island that is close to most countries, some people have constructed a mound of mud which they have convinced all the other countries is very powerful; all countries' leaders believe that this mound can wreak great destruction. Perhaps all of the Great Powers take the power of the mound of mud very seriously in their foreign policy deliberations, and any explanation of such policy would have to consider the position of the mound of mud in the decision-makers' minds. However, this would not be an objective consideration; in the event of a war, or the rise of a state that eliminated the mound of mud by simply blowing it up, the mud would eventually be shown to have been powerless. This is because, as Waltz has pointed out, in an anarchic system such as the international political system, eventually the forces of competition (and socialization) will force out those kinds of states which fall far behind in their possession of the resources of power.

Perception is a problem of foreign policy, but does not enter into calculations of national power. In an attempt to show that perception is an important indicator of power, Singer and Small (1966) tried to use the number of ambassadors that a country received as an indication of power, but found that Spain was therefore the most important country before World War I!

Instead, Levy claims that "most important, a Great Power possesses a high level of military capabilities relative to other states" (Levy 1983, 16). This is an objective criterion. When Levy explains his choices of Great Powers, however, the descriptions

are rather short, since he is covering the 480 years from 1495 to 1975, and he often seems to rely on “intercoder agreement”.²

Paul Kennedy never gives an explicit list of Great Powers. His definition of a Great Power is of “a state capable of holding its own against any other nation” (Kennedy 1987, 539). This definition is claimed to be based on Martin Wight’s definition quoted above, but Kennedy’s is actually based on a defensive criteria, whereas Wight’s was more general (The list in figure 1 is based on various of Kennedy’s comments that he spread throughout his book, and that I compiled). Kennedy is exhaustive when it comes to strengths and weaknesses³ (which generally are based on both Organski and Morgenthau, who will be examined below), and shy about giving us a list. His most common indicator of national power, at least in the 20th century, is clearly the industrial base⁴.

Kennedy uses a series of tables – which are composed of Singer’s industrial data, among others – which are very inclusive. The “Powers”, as he refers to them in these tables, are Austria-Hungary, France, Germany, Great Britain, Italy, Japan, Russia, and the United States between 1890 and 1938. On the other hand, he makes various statements about various powers that are not consistent with this list, for the US⁵, Italy⁶, Russia⁷, and Austria-Hungary and France⁸.

Thus, although he treats Austria-Hungary, Italy, and France at length, Kennedy is not clear as to whether or not they are Great Powers in the first half of the twentieth century. There is less confusion in the second half, but all is not clear. He refers to Germany, France, Japan, Italy, and Britain as “those former Great Powers” (Kennedy 1987, 365), although he then mentions that Great Britain was “one of the Great Powers of

the world” (Kennedy 1987, 367). He refers again to the list of “former Great Powers” at the same time that he presents a table of “Powers” which includes the US, USSR, Britain, France and China (Kennedy 1987, 395). Since the latter table deals with nuclear weapons, perhaps he has shifted his definition of Great Power to encompass nuclear capability. By the 1970s, we are again told of the “former Great Powers” (Kennedy 1987, 422). By the early 1980s, the UK “was now just an ordinary, moderately large power, not a Great Power” (Kennedy 1987, 425).

Counter to Singer’s thoughts of scholarly consensus, Kennedy quotes other diplomatic historians, but each historian has compiled a different list. Whereas the weaker Great Powers present a definitional problem before World War II, and for some the United States also presents problems, Europe as a whole seems exasperating after World War II. Kennan’s “very plausible geopolitical argument” (Kennedy 1987, 376) was that there were only “five centers of industrial and military power in the world which are important to us from the standpoint of national security” (Kennedy 1987, 376), “the United States itself, its rival the USSR, Great Britain, Germany and central Europe, and Japan”. On the other hand, by 1973 Kissinger “identified five important regions, the United States, the USSR, China, Japan, and western Europe” (Kennedy 1987, 408), eliminating Great Britain as a separate power and adding China. Nixon used the same list in 1971 (Kennedy 1987, 413). Kennedy talks of a “multipolar distribution of global economic balances” by the 1980’s, and shows indicators for the US, USSR, Japan, the EEC, and China. But we are never informed as to what kind of unit western Europe represents.

China is also something of a mystery. Clearly, the US and USSR are superpowers, yet Kennedy refers to China as “the poorest of the major Powers” (Kennedy 1987, 447), and talks of “China’s emergence as a Great Power militarily” (Kennedy 1987, 449), although he refers to a set of “existing Great Powers” (Kennedy 1987, 450) that doesn’t include China. On the other hand, China relates to “the other Powers” (Kennedy 1987, 457). Japan too is one of the “major Powers” (Kennedy 1987, 461). “It is only in the EEC that an organization and structure exists, at least *potentially*, for a fifth world power.” (Kennedy 1987, 471) “In its *potential*, the EEC clearly has the size, the wealth, and the productive capacity of a Great Power” (Kennedy 1987, 472). Thus, instead of consensus holding for the twentieth century, there are some difficult problems of definition which many theorists have avoided by assuming some kind of scholarly agreement.

We have seen that there is no clear consensus on who is a Great Power and when, and that there are rather paltry efforts to link a set of criteria with the construction of the list of Great Powers. Some scholars attempt to enumerate the list of capabilities which are indicators of international political power; presumably, the Great Powers would have more power than other countries. Perhaps, armed with a solid list of capabilities, it would be possible to construct a list of Great Powers.

Criterion 2: Capabilities

A Great Power is presumed to enjoy certain advantages that most other states are denied. According to Waltz, for instance, “States are placed in the top rank because they

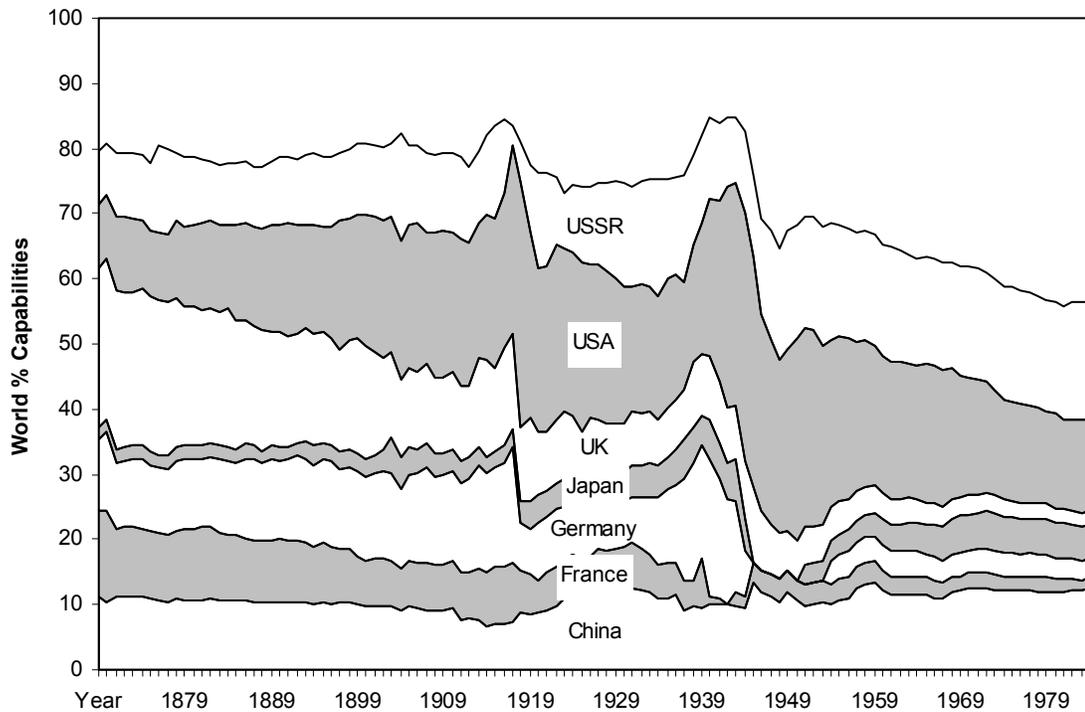
excel in one way or another. Their rank depends on how they score on *all* of the following items: size of population and territory, resource endowment, economic capability, military strength, political stability and competence” (Waltz 1979, 131). For Martin Wight, “The power that makes a ‘power’ is composed of many elements. Its basic components are size of population, strategic position and geographical extent, and economic resources and industrial production. To these must be added less tangible elements like administrative and financial efficiency, education and technological skill, and above all moral cohesion” (Wight 1978, 26). These scholars simply list capabilities, much as they and others list Great Powers, without specifying theoretical reasons for doing so. In chapters 5 and 10, I will attempt to construct a theoretically-based definition of a Great Power.

The main problem that all of these theorists are trying to overcome is the problem of aggregation. Can we find one measure that combines all of the different capabilities of a state, and therefore reliably measure the relative position of each state in the international system? In a very similar way, economists have always tried to construct aggregate measures of capital and labor when discussing growth, but have been unsuccessful, as shall be shown later. Can capabilities be aggregated?

Singer’s Capabilities

J. David Singer and his associates have attempted just such an indicator (Singer 1993). They have researched the total population, urban population, military expenditures, military personnel, energy consumption, and iron/steel production figures

for all the countries of the world as far back as possible (see Figure 2). These six indicators are meant to represent demographic, military, and economic capabilities, which are assumed to be the three important categories for assessing national power. Each country's indicator as a percentage of the world total is then calculated; and the six indicators are then aggregated to give a single number.



By comparing the great power chart and the national power chart, we can see that there are a great many inconsistencies. The US becomes a Great Power, according to Singer, in 1898; yet it has the 2nd highest aggregate capability in the world by 1880 (and in the 1860s). Japan becomes a Great Power (3 years before the US!) and continues to be one while it is the 6th most powerful nation; yet in the post-war period it becomes the 4th most powerful, and yet it is not a Great Power. On the other hand, France and Britain are Great Powers in the post-WWII era, even though Japan and Germany, which have more national aggregate power, are not! The predictive power of this model is suspect – the USSR has become more “powerful” than the US by about 1974, even though every post-mortem on its collapse paints a picture of a country that had been declining since the 1950s. It also seems doubtful that warlord-torn China is “twice” as powerful as Japan during the period when, in the 1930s, Japan was conquering China. By the 1980s, China is allegedly nearly as powerful as the US.

Part of the problem may be that population is overweighted; if a country has a large population, it may also have a large amount of military personnel, total population, urban population, and energy consumption. Another problem stems from aggregating different kinds of capabilities; military capabilities are notoriously dynamic (witness World War II), while economic capabilities are more important in long-term calculations. Energy consumption may indicate great waste, not efficient use. However, the Singer indicators have the great virtue, which Singer stresses, that relatively reliable figures do exist for them.

Organski's power capabilities

Organski attempts to bring the list of capabilities down to two, an economic and a political capability. In his book *World Politics*, he first examines six determinants of national power. He points out that geographical size does not correlate with power⁹. As for resources, as Organski points out, “The nation that can turn its raw materials into manufactured goods possesses even greater powers of reward. The great manufacturing nations have always been great powers” (Organski 1968, 139). This relationship is confirmed in the statistical appendix of this dissertation.

As in the case of geographic size and natural resources, the ranking of population does not correlate strongly with national power. The ten countries in the following table, from 2000, constitute 58% of world population:

Table 1. Population of Ten Largest Countries in 2000

Country	Population (000)	World %
China	1,277,558	21.1%
India	1,013,661	16.7%
United States	278,357	4.6%
Indonesia	212,108	3.5%
Brazil	170,116	2.8%
Pakistan	156,484	2.6%
Russian Federation	146,934	2.4%
Bangladesh	129,155	2.1%
Japan	126,714	2.1%
Nigeria	111,506	1.8%

Source: <http://www.un.org/Depts/unsd/social/population.htm>

Organski reserves his greatest enthusiasm for the economic and political determinants of power. Economic power, as he so eloquently explains, ultimately can be reduced to technological power, which is based on machinery:

In a modern, industrial economy, each worker produces far more [than in a backward one], for he is part of an elaborate and efficient economic organization where tools, techniques, motivation and opportunity combine to make him productive. He finds placed at his disposal a vastly superior technology. Most important, he has the use of the machine. Compare the peasant with his horse-drawn plow, his scythe and flail with the modern farmer with his tractor and his combine. Compare the man who transported goods by team and wagon with the modern trucker. Or a scribe and a typist, a seamstress with a needle and one with a sewing machine, a mathematician with an abacus and one with an electronic brain. Unquestionably, the greatest boost to productivity has come with the machine. Aided by what is in fact an extension of himself, the modern worker in an industrial economy produces infinitely more than the worker of a nonindustrial economy could possibly produce, no matter how diligently he applied himself to his work. The modern worker produces far more than he requires for his own subsistence. He produces a surplus, and it is this surplus which contributes to a nation's power. (Organski 1968, 156)

This machinery-based power is set into motion by a self-reinforcing process:

The greatest resource of the industrial nations and the greatest need of underdeveloped lands is capital, the wealth that is not used by consumers and can therefore be used to produce still further wealth. Without extensive capital, modern industry could not exist, for it is only by plowing large amounts of production back into the building of still further production facilities that great industries can be created. In the long run, it is as important to build steel plants as it is to produce the steel itself, and if a nation wishes to produce airplanes or bridges or electric lights, it must first produce the tools to make the tools to make the goods desired. What the economy of a nation will produce tomorrow depends in large part upon the capital investments made today. (Organski 1968, 163)

Thus, Organski highlights two critical ideas which will be greatly elaborated in Chapters 6 through 8 of this study: that technological progress in machinery leads to changes in national power, and that there is a positive feedback process at work in the

economy, in which investment in capital yields more capital, that is at the heart of modern industrial economies.

Organski does not pursue these technological themes, however. Instead, he attempts to construct an index that will reflect technological prowess: “High per capita product accompanies high productivity per worker and can be used to give a rough idea of it. Per capita product, therefore, is the index we shall use for productivity” (Organski 1968, 157). This is how productivity is usually defined in economic and development literature. However, as he points out, a list of the highest per capita countries includes several, such as Austria and the Scandinavian countries, which are not the most powerful. On the other hand, “population size is the most important determinant of national power. With it, a lack of other determinants can be overcome. Without it, great power status is impossible” (Organski 1968, 203-4). Therefore, one can multiply product per capita times population, which equals Gross National Product, or GNP (Organski 1968, 208-9), and arrive at a combined measure of economic power.

While economic resources are crucial to power, so is “the capability and more particularly the efficiency of the national government in utilizing these resources in pursuit of national goals...The single most important tool available to any national government for mobilizing its human and natural resources is the governmental bureaucracy” (Organski 1968, 170-2). In addition, “Control of the military bureaucracy is particularly important. A monopoly of the use of force must rest in the hands of any effective government” (Organski 1968, 172). Thus, bureaucracy, the machinery of government, and the monopoly of force in a territory, are identified as the two most critical aspects of the state. These ideas will be pursued further in chapter 6 of this study.

Without quite saying so, Organski uses the reintegration of China by the Communist Party in 1949 as his most important case study of political power:

This case amounts almost to a natural experiment. Geography, resources, population size, and economic development remained constant or nearly so. Only one major determinant of power had changed: there had been a massive modernization of the political system, and for the first time in centuries the central government of China had the capacity to reach and to mobilize the Chinese masses. (Organski 1968, 175)

In Organski and Kugler, an attempt is made to construct a quantitative index of political development, using the ability to extract resources as the main indicator¹⁰. One indicator would then be tax revenue, or a measure of tax revenue with certain qualifiers which they call “tax effort” (Organski and Kugler 1980, 77). This measure does not apply to developed countries because the US does not extract the most resources.¹¹

Organski and Kugler have proposed one variable to use as an index, tax effort, but then when it does not conform to their predictions, they eliminate the variable. Instead, they imply the usefulness of another variable, which by itself is very significant: the level of democracy. The tax effort is eliminated as an important variable because peoples in developed countries have the right to decide, and since they might not decide to incur a large tax burden, the rate of taxation cannot be used as an indicator of political development. Therefore, it would seem that “the right to decide” is more important than the tax effort itself.

Organski and Kugler argue that using GNP as an indicator yields a similar ranking of relative position as the Singer national capability index. However, there is one large question to be answered: Whose estimate of GNP should be used?

One might think that, as Organski and Kugler state, “the data available [for GNP] are probably more reliable for that measure than the several series gathered to construct

the Singer index” (Organski and Kugler 1980, 38). The problem is that there are several indices of GNP. Many economists have decided that it is now possible to change the official GNP numbers to better reflect the “reality” of how the various nations actually perform economically; they wish to compare “purchasing power parity” (PPP), not GNP at official exchange rates. Figure 3 shows GNP as calculated for PPP by Angus Maddison (1995), starting from 1870, and figure 5 shows Maddison’s calculations from 1960 to 1989. A previous study by Angus Maddison was used as the base for the Organski and Kugler calculations. Figure 4 shows the Penn World Tables, revision 5.6, (Penn World Tables 1991), which are PPP data developed by economists based at the University of Pennsylvania and used for statistical explorations by many economists, also from 1960 to 1989. There are many differences between the Maddison and Penn World Tables, and between Maddison and the Singer aggregate data.

Let us compare the Penn World Tables, Maddison, and UN data at official exchange rates (from the 1989 Statistical Yearbook), for percentage of world GNP, and ranking, from 1960 to 1989, for seven countries:

Table 2: Comparison of Rankings of Selected Countries

	<u>Maddison</u>		<u>Penn</u>		<u>UN 1989</u>	
	<u>%</u>	<u>Ranking</u>	<u>%</u>	<u>Ranking</u>	<u>%</u>	<u>Ranking</u>
China	7.4 to 11.8	3 to 2	5.9 to 7.1	3 to 4	2.1	7
France	6 to 3.9	5 to 6	4.1 to 3.6	7 to 6	4.7	5
Germany	5.9 to 4.5	4 to 5	5.7 to 4	4 to 5	5.8	4
Japan	4.6 to 8.7	7 to 3	4.3 to 7.9	6 to 3	14.1	2
USSR	10.7 to 8.1	2 to 4	8 to 10.4	2 to 2	7.4	3
UK	5.7 to 3.7	6 to 7	5.6 to 3.6	6 to 7	4.1	6
USA	25.6 to 21.6	1 to 1	27.8 to 21	1 to 1	25.5	1

We see that for the USA and UK, the change in rankings (rise or decline) and percentages are fairly similar. The biggest discrepancies are for China and the USSR; for Maddison, China is rising relatively in this period and the USSR declining, while the reverse is evident for the Penn calculations. This should not be too surprising, as these countries are notoriously difficult to estimate. Germany, Japan, and France are fairly similar.

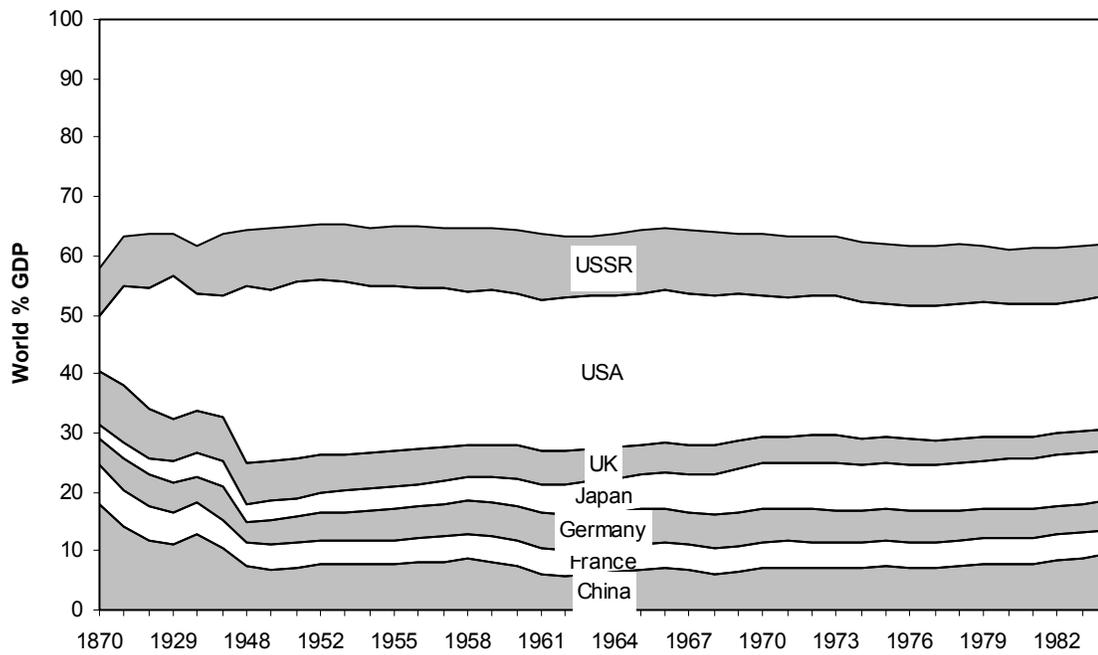
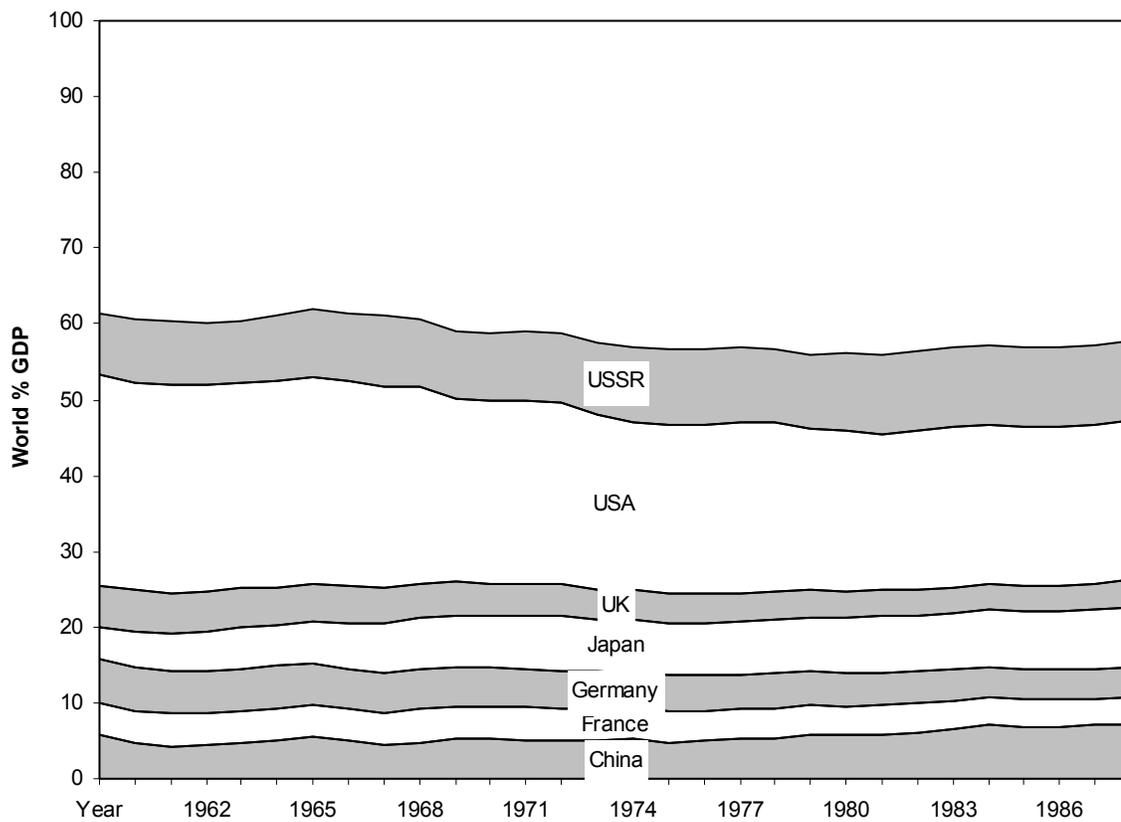


Figure 3. Madison's PPP for 1870 to 1984.



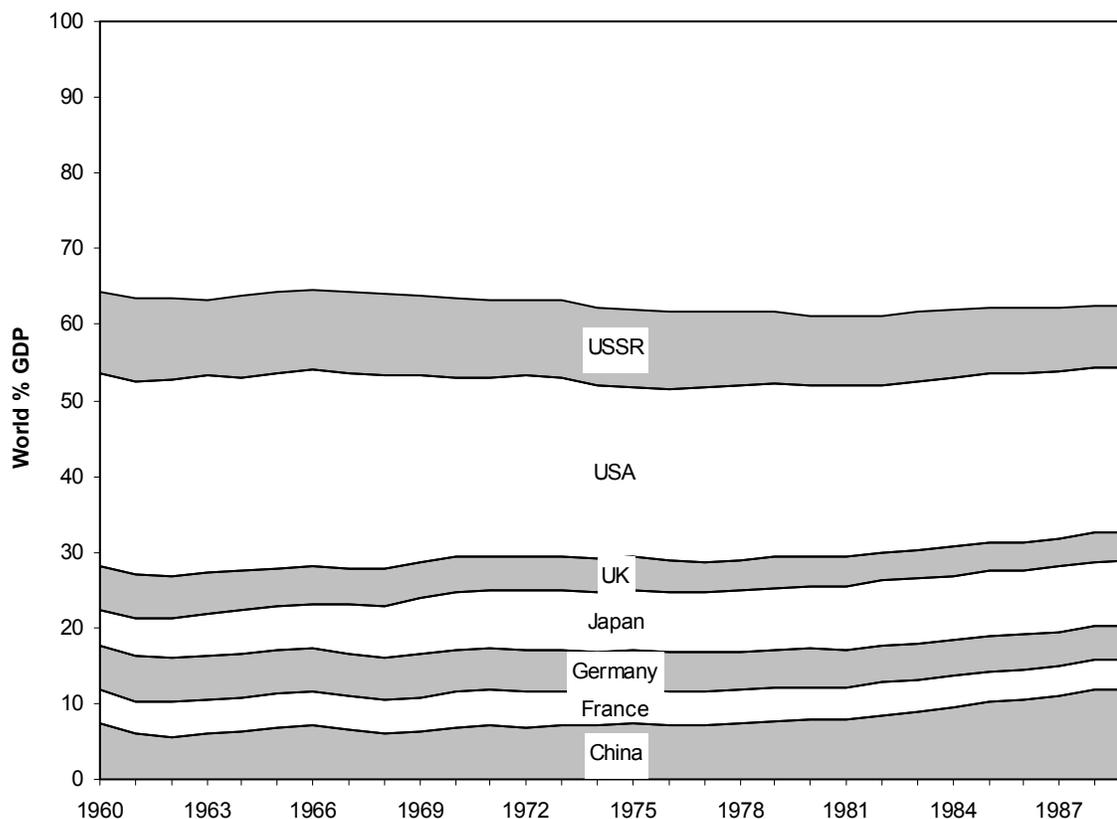


Figure 5. Maddison estimates of PPP from 1960 to 1989.

Coming to an agreement on GNP can be difficult. The problem with the UN data is that the Chinese and Soviet regimes reported not GNP, but Net Material Product (NMP), which mainly includes what we would call the industrial sector. The governmental and service sectors are left out of NMP, requiring Western scholars to make adjustments. But the Purchasing Power Parity (PPP) numbers, which Maddison and the Penn World Tables teams used, also have grave comparative problems.

The major justification for using PPP is that comparing national economies by using their exchange rates is misleading (Kravis, Heston and Summers, 1978). When a country devalues its currency by 25%, its GNP does not instantaneously decrease by 25%. When an apple costs \$1 in Japan, it means that the consumer in Japan is poorer than indicated by his or her paycheck, since more of the paycheck must be spent buying an apple in Japan than in the U.S. In particular, problems of comparing national economies, so it is claimed, loom very large when goods and services are not traded regularly. How does one compare the cost of a haircut in Turkey vs. a haircut in the U.S.? Haircuts, and many other services, including most conspicuously governmental services, are not traded. It is claimed that, particularly in less developed countries, their GNP is underestimated because of the low cost of their services.

As Organski, Kennedy, and many other scholars have argued, however, the industrial sector is the most important part of the economy when measuring national power. Therefore, this study will concentrate on manufactured goods, which are, for the most part, tradable. While exchange rates do bias some comparisons, it has been shown that exchange rates generally tend to converge toward the PPP values, in the long-run (Rogoff 1996); this study is concerned with the long-run.

Perhaps an even more troubling aspect to the process of calculating PPP numbers is the opaqueness of the data. It is very hard to find out exactly how these “objective” values were arrived at. One suspects that there are many conceptual mistakes made. For instance, Maddison points out that in the case of a different team of PPP researchers who were calculating educational costs, “for several poor countries they assume higher

productivity than in developed countries because the classes are bigger” (Maddison 1983, 34). How many more miscalculations such as this enter into these data?

It can be very difficult to equate different products of different countries. When simple commodities are compared – apples or cheese, for instance – one can assume a certain consistency of product. But it is particularly difficult to assume the equality of different pieces of machinery. As an OECD report on their PPP study points out, “It is extremely important that the values identified and the prices selected should relate to exactly the same items if both the resulting parities at the basic heading level and the overall index are to be accurate and meaningful” (OECD 1985, 39).

The report goes on to discuss the great difficulties of calculating machinery comparisons; in some cases, they needed to match by using physical characteristics (OECD 1985, 57). In Japan, because of various problems, “certain product comparisons therefore had to be rejected” (OECD 1985, 58). Should a group of economists employed by the OECD be trusted to pass judgment on the relative merits of various pieces of complicated machinery?

Data on production machinery are hard enough to obtain without complicating the issue by waiting for an international agency to provide statistics which can not be independently verified and are problematic in any case. I have therefore chosen to concentrate my comparison figures on official, exchange-rate values. Considering the faith put in the price-setting capabilities of the marketplace, it is somewhat surprising that economists spend so much energy trying to second-guess its conclusions, especially when it comes to heavily traded goods.

Since the communist countries only reported industrial totals, and the manufacturing sector is generally more comparable across countries than governmental and other services, this study will use, not GNP, but the manufacturing sectors of various countries for broad measures of comparison. The statistical appendix for this dissertation uses various categories of machinery production, using official exchange rates, for comparison.

Organski has raised several very important points. The capability to produce machinery and accumulate capital, and the importance of the bureaucracy and monopoly of violence over a territory, will be used later in this study as part of an attempt to define economic and political power. However, the actual measures that Organski and Kugler arrive at to build their indexes need refinement.

Morgenthau's capabilities

Hans Morgenthau (1973) used a list of capabilities that are similar to Organski's, although he is not as explicit about his ordering, and not as quantitative. On the one hand, the quality of government is deemed to be important¹²; by "quality of government", Morgenthau seems to have in mind the distribution of domestic political power, because democracies receive greater support from the population than dictatorships¹³. He is also very concerned about the quality of national diplomacy¹⁴.

On the other hand, Morgenthau is very aware of the material aspects of power:

Since victory in modern war depends upon the number and quality of highways, railroads, trucks, ships, airplanes, tanks and equipment and weapons of all kinds, from mosquito nets and automatic rifles to oxygen masks and guided missiles, the competition among nations for power transforms itself

largely into competition for the production of bigger, better, and more implements of war. The quality and productive capacity of the industrial plant, the know-how of the working man, the skill of the engineer, the inventive genius of the scientist, the managerial organization – all these are factors upon which the industrial capacity of a nation and, hence, its power depend.

Thus it is inevitable that the leading industrial nations should be identified with the great powers, and a change in industrial rank, for better or for worse, should be accompanied or followed by a corresponding change in the hierarchy of power. (124-5)

What distinguishes the superpowers from all other nations, aside from their ability to wage all-out nuclear war and absorb a less than all-out nuclear attack, is their virtual industrial self-sufficiency and their technological capacity to stay abreast of the other nations... the fate of nations and of civilizations has often been determined by a differential in the technology of warfare for which the inferior side was unable to compensate in other ways. (126)

Thus, Morgenthau forcefully argues for the proposition that industrial power leads to military power, and that military power is the basis of national power. Chapters 5 through 10 will construct hypotheses along similar lines of argument.

Morgenthau also considers the importance of geography, military leadership¹⁵ and population¹⁶. But like Organski, he seems to have two main themes: a technological, or economic, capability, and a social, or political, capability, are the most important bases of national power. Morgenthau concept of “national morale” is similar to Organski’s “political development”, although Morgenthau lays greater stress on diplomacy.

Conclusion

In conclusion, it seems that scholars are not in agreement concerning either the specifics of which country was a Great Power when, or the more general criteria for the capabilities that characterize national power. Many important insights have been

explored by these writers, and in particular it seems that two broad types of capabilities are identified. On the one hand, technological or economic aspects of national power have great explanatory potential. These are relatively easy to measure, at least in terms of money value. On the other hand, there are a set of political factors, such as the bureaucracy, democracy or lack of it, and military control of a territory, which are critical but less amenable to quantitative measurement. Chapter five of this study will elaborate on these two central aspects of national power, and will combine them with a discussion of international systems theory in an attempt to construct a theoretically consistent and empirically meaningful definition of Great Power.

NOTES

¹ “The distinction between center and periphery is indicated by alliances among the relevant actors ...[since]...the behavior of uninvolved nations cannot be expected to follow the rules of the power-distribution models and, so, is not predictable...”. The list of nations which have been both central and peripheral basically encompasses all of the countries and time periods all authors have posited. However, “contenders alone are strong enough to determine the direction the politics of the world order are to take” (Organski and Kugler 1980, 43). This definition is closer to my definition than their others; but more importantly, their statistical tests are significant only for contenders, not for all major powers (Organski and Kugler 1980, 51). Thus, the contender class seems the most significant.

² “The status of France as a member of the Great Power system from its inception in 1495 until the German occupation in 1940 is unquestioned”, “There is no doubt that England’s Great Power status continued until the mid-twentieth century”, “There is no question regarding the continuation of [Russia’s] Great Power status until the present day”, “The continuation of Great Power status for Prussia and then Germany is not in doubt until Hitler’s defeat in 1945”, and “there is no doubt regarding [the United States’] Great Power rank throughout the twentieth century”(Levy 1983, 29, 30, 40, 40).

³ “Countries with virtually identical industrial output might nonetheless merit substantially different ratings in terms of Great Power effectiveness, because of such factors as the internal cohesion of the society in question, its ability to mobilize resources

for state action, its geopolitical position, and its diplomatic capacities” (Kennedy 1987, 202).

⁴ For instance, “Industrial productivity, with science and technology, became an ever more vital component of national strength. Alterations in the international shares of manufacturing production were reflected in the changing international shares of military power and diplomatic influence”(Kennedy 1987, 197).

⁵ “It was not until 1892 that the European Great Powers upgraded the rank of their diplomatic representatives to Washington from minister to ambassador – the mark of a first-division nation”... By 1914, “the United States had definitely become a Great Power. But it was not part of the Great Power system” (Kennedy 1987, 194, 248).

⁶ He clearly has consistent misgivings about considering Italy a Great Power, whether in 1913 when it “marginally entered the listings of Great Powers”, or before World War II when “given the almost irredeemable weaknesses which afflicted the Italian economy under fascism, it would be rash to suggest that it could ever have won a war against another proper Great Power” (Kennedy 1987, 205, 295). According to his definition then, Italy was not a Great Power.

⁷ Referring to 1905, Kennedy describes Russia as “unexpectedly reduced to a second-class power for some years to come”, and considering that it was eventually defeated by Germany, one wonders whether it was really a Great Power in World War I at all, at least according to Kennedy’s definition. However, he says that WWI weakened Russia “more than any of the other Great Powers” (Kennedy 1987, 252, 321).

⁸ . He quotes the opinion that “the heart of the mater...was simply that Austria-Hungary was trying to act the part of a great power with the resources of a second-rank one”. Even more damning, according to his criterion, is that “if the mark of a Great Power is a country which is willing and able to take on any other, then France (like Austria-Hungary) had slipped to a lower position” by 1914. In discussing the alliance system of World War I, he comes to the conclusion that neither Italy, Austria-Hungary, nor France could have kept going at a certain point without the help of their allies. France seems problematic even before World War II. “Japan had not only become much stronger economically than Italy, but had also overtaken France in all of the indices of manufacturing and industrial production”. Yet he refers to France as a Great Power in the 1930’s , although clearly France was not “a state capable of holding its own against any other nation”, since it was quickly overcome by Germany (Kennedy 1987, 218, 224, 299, 310).

⁹ Organski provides a list of the largest nations, circa 1966, in this order: USSR, Canada, China, US, Brazil, Australia, India, Argentina, Sudan and Algeria (Organski 1968, 128). As he points out, this list does not correlate well with a ranking of national power. Natural barriers and size may help in national defense (Organski 1968, 134); one thinks of Hitler and Napoleon exhausting their resources on the expanses of Russia, or the

advantages for defense accruing to the US, Japan, and UK as a result of their “island” status.

¹⁰ “Political development means capacity, and capacity is dependent on political performance in two areas: penetration of the national society by central governmental elites to control as many subjects/citizens as possible within the political jurisdiction of the state; and the capability of the government to extract resources from its society” (Organski and Kugler 1980, 72).

¹¹ “One example will clarify the point. Sweden taxes far more than the United States. But one cannot infer from this that the Swedish political system is more effective than that of the United States” (Organski and Kugler 1980, 81), because Americans might want fewer services than Swedes.

¹² “National character and , above all, national morale and the quality of government, especially in the conduct of foreign affairs, are the most important, but also the most elusive, components of national power” (Morgenthau 1973, 224).

¹³ “National morale is the degree of determination with which a nation supports the foreign policies of its government in peace or war”(Morgenthau 1973, 140), and “the adage that free men fight better than slaves can be amplified into the proposition that nations well governed are likely to have a higher national morale than nations poorly governed”(Morgenthau 1973, 146).

¹⁴ “Of all the factors that make for the power of a nation, the most important, however unstable, is the quality of diplomacy”, which seems to be the active element of a nation’s power: “All the other factors that determine national power are, as it were, the raw material out of which the power of a nation is fashioned. The quality of a nation’s diplomacy combines those different factors into an integrated whole” (Morgenthau 1973, 146).

¹⁵ “Aside from the timely use of technological innovations, the quality of military leadership has always exerted a decisive influence upon national power” (Morgenthau 1973, 128).

¹⁶ “No country can remain or become a first-rate power which does not belong to the more populous nations of the earth” (Morgenthau 1973, 130).