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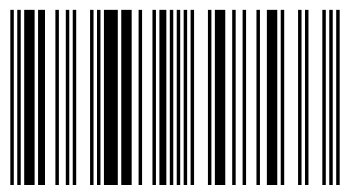


Nikola Kjurchiski

Public Administration Efficiency in Resource Abundant Countries



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Public Administration Efficiency in Resource Economies, and its Role in the Sovereign Wealth Funds

Nikola Kjurchiski, MA

Moscow 2014

Abstract

In this book is analyzed public administration efficiency in resource economies and also a comparative analysis with the OECD countries is done. After a conceptual discussion, a wider scope of public administration is included and measured by new measurement of public administration efficiency called Index of Public Administration Efficiency (IPAE), created from this work. Efficiency scores calculations and rankings are made for resource economies, and OECD countries, based on this index. Research finds and analyzes the outcomes of these scores. Regression analysis shows that economic freedom significantly influences efficiency, and efficiency influences real GDP per capita (PPP) and human development, but more government spending does not increase public administration efficiency. Also explained what is sovereign wealth funds, and the role of public administration in it.

Keywords: public administration, efficiency, resource economies, OECD, economic freedom, government expenditures, sovereign, wealth, stabilization, saving, funds.

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I am very thankful to my family. Words cannot express your influence making me better man. I am especially grateful to my father, mother and sister for all of the sacrifices that you have made on my behalf and for the unconditional support you gave me. At the end I would like express my gratitude to my beloved Eli for being the whole time my biggest support.

The wheel and the fire created the mankind, but it grows with the natural resources.

Vojo Kjurchiski

Our country is rich, but our people are poor.

Vladimir Putin

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1. Introduction

Public Administration plays a key role in organizing society; it is also a very important factor in the progress and regress of the economy and society itself. The differences in public administration governance explain why some countries have significant growth and other countries do not have it (Olson, Sarna and Swamy, 2000). Today's trends show that public administration has a broad scope in the modern society, and it is very important to include this broader scope in measuring the efficiency of public administration. Main factor inhibiting the growth in resource abundant countries is the institutional deficiencies (Kaznacheev, 2013; Mehlum, Moene and Torvik, 2006).

To solve the problem first you have to locate it in order to know where and how to fix the problem. Existing indexes, for measuring public administration or some part of it, are limited in this way. Most of these indexes are limited in their scope of measuring or they measure just some aspects of the public administration. When I started this research, I wanted to use an already created index to measure the public administration efficiency in resource economies and OECD countries and analyze the comparisons, but I realized that there is no suitable index which can measure my view of what modern public administration represents today. So I extended my goal, creating index that measures the efficiency of public administration in wider scope, called **Index of Public Administration Efficiency (IPAE)**.

Findings show that resource countries **with more economic freedom have more efficient public administrations**. Another interesting finding is that **better public administration efficiency means bigger economic growth, more human development and higher GDP per capita (PPP)**. **More government expenditure, however, doesn't necessarily mean more efficient public administration**. **More efficient public administration also means more effective sovereign wealth fund**.

This book produces two main analytical contributions:

- **Creation of new public administration efficiency measurement, the Index of Public Administration Efficiency (IPAE).**
- **Comparison and conclusions regarding resource economies and OECD countries and their Public Administration Efficiency.**

In addition, are presented the findings with the main results of Public Administration Efficiency in the resource economies and OECD (Organization for Economic Co-operation and Development) countries (*see Tables 1 and 2*), and Effectiveness of Sovereign Wealth Funds in resource economies (*see Table 3*).

Rank	Country	Institutional Strength	Government Effectiveness	Health & Education	Macroeconomic Environment	Innovation & Technology	PA Measures	PA Outcomes	IPAE 1-7
1	Norway	6.074	5.536	5.757	5.385	4.838	5.665	5.298	5.518
2	Canada	5.994	5.193	5.730	5.043	4.937	5.410	5.334	5.380
3	Iceland	5.851	4.891	5.794	4.769	5.094	5.170	5.444	5.280
4	Australia	5.857	4.936	5.592	5.135	4.738	5.310	5.165	5.252
5	Qatar	5.048	5.187	5.122	5.218	4.365	5.251	4.743	5.048
6	Chile	5.678	5.081	4.911	5.511	4.345	5.324	4.628	5.045
7	United Arab Emirates	4.695	4.806	4.720	5.706	4.232	5.069	4.476	4.832
8	Malaysia	4.450	4.599	5.088	5.128	4.332	4.726	4.710	4.719
9	Brunei Darussalam	4.336	4.398	4.968	5.538	3.747	4.757	4.358	4.597
10	Saudi Arabia	4.110	4.456	4.802	5.554	3.953	4.706	4.377	4.575
11	Oman	4.418	4.584	4.747	5.417	3.686	4.806	4.216	4.570
12	Bahrain	4.180	4.410	4.912	5.181	3.759	4.590	4.336	4.488
13	Botswana	5.117	4.659	4.053	4.838	3.431	4.872	3.742	4.420
14	South Africa	4.775	3.849	3.899	4.484	3.734	4.369	3.817	4.148
15	Kuwait	3.803	3.462	4.533	5.646	3.248	4.304	3.890	4.138
16	Namibia	4.615	3.997	4.170	4.403	3.379	4.338	3.775	4.113
17	Trinidad and Tobago	4.263	3.474	4.448	4.517	3.687	4.085	4.068	4.078
18	Indonesia	4.005	3.565	4.446	4.710	3.573	4.093	4.009	4.060
19	Mongolia	4.046	3.109	4.476	4.543	4.075	3.899	4.276	4.050
20	Ghana	4.407	3.787	3.929	4.516	3.367	4.237	3.648	4.001
21	Mexico	3.894	3.228	4.727	4.308	3.600	3.810	4.163	3.951
22	Kazakhstan	3.269	3.225	4.390	5.037	3.645	3.844	4.018	3.913
23	Azerbaijan	3.235	3.215	4.112	5.133	3.698	3.861	3.905	3.878
24	Peru	3.900	3.051	4.341	4.701	3.269	3.884	3.805	3.852
25	Colombia	3.712	3.128	4.646	4.337	3.378	3.726	4.012	3.840
26	Jamaica	4.198	3.324	4.507	3.626	3.538	3.716	4.023	3.839
27	Zambia	4.000	3.775	3.526	4.677	3.192	4.151	3.359	3.834
28	Guyana	3.844	3.348	4.138	4.306	3.510	3.833	3.824	3.829
29	Suriname	4.390	3.350	4.075	3.861	3.133	3.867	3.604	3.762
30	Gabon	3.582	3.386	3.667	5.148	2.919	4.039	3.293	3.740
31	Bolivia	3.751	3.236	4.431	4.120	3.087	3.702	3.759	3.725
32	Tanzania	3.719	3.486	3.932	4.341	3.128	3.849	3.530	3.721
33	Ecuador	3.658	2.769	4.540	4.210	3.273	3.546	3.907	3.690
34	Timor-Leste	3.799	3.177	3.784	4.849	2.724	3.941	3.254	3.666
35	Libya	3.429	2.991	4.094	5.013	2.764	3.811	3.429	3.658
36	Iran	3.192	3.049	4.331	4.232	3.079	3.491	3.705	3.577
37	Russian Federation	2.926	2.576	4.670	4.258	3.439	3.253	4.055	3.574
38	Mozambique	3.687	3.101	3.113	4.289	3.316	3.692	3.214	3.501
39	Egypt	3.370	2.851	3.972	4.100	3.129	3.440	3.550	3.484
40	Kyrgyzstan	2.997	2.395	4.446	4.006	2.865	3.133	3.656	3.342
41	Burkina Faso	3.841	3.122	2.463	4.540	2.734	3.835	2.598	3.340
42	Mauritania	3.117	3.034	3.061	4.395	2.939	3.515	3.000	3.309
43	Mali	3.387	3.064	2.633	4.498	2.882	3.649	2.758	3.293
44	Cameroon	3.085	2.627	3.377	4.614	2.757	3.442	3.067	3.292
45	Zimbabwe	3.116	2.517	3.968	4.163	2.650	3.265	3.309	3.283
46	Nigeria	3.504	2.973	2.505	4.223	2.996	3.567	2.751	3.240
47	Sierra Leone	3.605	3.281	1.846	4.236	2.876	3.707	2.361	3.169
48	Algeria	2.863	2.363	4.082	4.061	2.469	3.096	3.275	3.168
49	Cote d' Ivoire	3.411	2.702	2.625	3.888	2.900	3.334	2.762	3.105
50	Guinea	3.204	2.794	2.462	3.512	2.515	3.170	2.488	2.897
51	Venezuela	2.506	1.751	4.535	2.907	2.771	2.388	3.653	2.894
52	Yemen	2.461	2.200	3.165	3.976	2.415	2.879	2.790	2.844
53	Chad	2.659	2.216	2.085	4.367	2.392	3.081	2.238	2.744

Table 1. Ranking Measuring Public Administration Efficiency in Resource Economies

Rank	Country	Institutions Strength	Government Effectiveness	Health & Education	Macroeconomic Environment	Innovation & Technology	PA Measures	PA Outcomes	IPAE I-7
1	Finland	6.411	5.844	5.694	5.191	5.246	5.816	5.470	5.677
2	Switzerland	6.167	5.721	5.565	5.314	5.481	5.734	5.523	5.650
3	Luxembourg	5.954	5.416	5.614	5.313	5.759	5.561	5.686	5.611
4	New Zealand	6.452	5.775	5.654	5.440	4.714	5.889	5.184	5.607
5	Sweden	6.209	5.680	5.681	5.058	5.181	5.649	5.431	5.562
6	Norway	6.074	5.536	5.757	5.385	4.838	5.665	5.298	5.518
7	Netherlands	6.163	5.603	5.739	4.739	5.121	5.502	5.430	5.473
8	Canada	5.994	5.193	5.730	5.043	4.937	5.410	5.334	5.380
9	Denmark	6.037	5.227	5.723	4.792	5.046	5.352	5.385	5.365
10	United Kingdom	5.847	5.082	5.542	4.929	5.178	5.286	5.360	5.316
11	Iceland	5.851	4.891	5.794	4.769	5.094	5.170	5.444	5.280
12	Australia	5.857	4.936	5.592	5.135	4.738	5.310	5.165	5.252
13	Germany	5.847	5.010	5.321	4.939	5.114	5.265	5.217	5.246
14	Ireland	5.851	4.746	5.202	5.086	5.089	5.228	5.145	5.195
15	Austria	5.581	4.645	5.489	4.986	4.945	5.071	5.217	5.129
16	Estonia	5.600	4.740	5.332	5.147	4.723	5.162	5.028	5.108
17	Belgium	5.516	4.566	5.586	4.783	4.899	4.955	5.242	5.070
18	Chile	5.678	5.081	4.911	5.211	4.345	5.324	4.628	5.045
19	France	5.345	4.479	5.276	4.680	5.001	4.835	5.139	4.956
20	Japan	5.729	4.394	5.208	4.392	5.036	4.839	5.122	4.952
21	United States	5.175	4.421	5.305	4.682	5.102	4.759	5.204	4.937
22	Israel	5.087	4.276	5.034	4.914	4.748	4.759	4.891	4.812
23	Portugal	5.025	3.749	5.365	4.804	4.622	4.526	4.994	4.713
24	Spain	5.067	3.981	5.290	4.671	4.419	4.573	4.855	4.686
25	Korea	4.543	3.721	5.168	4.981	4.750	4.415	4.959	4.632
26	Slovenia	4.802	3.579	5.420	4.977	4.299	4.453	4.860	4.616
27	Poland	4.903	3.687	5.033	4.773	4.060	4.454	4.546	4.491
28	Czech Republic	4.449	3.357	4.967	4.683	4.670	4.163	4.819	4.425
29	Hungary	4.564	3.193	5.015	4.698	4.284	4.152	4.650	4.351
30	Turkey	3.985	3.834	4.686	4.708	3.798	4.176	4.242	4.202
31	Italy	4.451	3.117	5.130	4.162	3.985	3.910	4.557	4.169
32	Slovakia	4.284	3.125	4.747	4.454	3.964	3.954	4.355	4.115
33	Greece	4.086	2.907	4.965	4.184	3.693	3.726	4.329	3.967
34	Mexico	3.894	3.228	4.727	4.308	3.600	3.810	4.163	3.951

Table 2. Ranking Table Measuring Public Administration Efficiency in OECD Countries

Rank	Country	Sovereign Wealth Fund Name	Assets Billions USD	Country Population Millions	Linaburg-Maduel Transparency Index	IPAE	Sovereign Fund Wealth per capita
1	Norway	Government Pension Fund-Global	878	5.06	10	5.518	173.518
2	Qatar	Qatar Investment Authority	260	2.05	5	5.048	126.829
3	Kuwait	Kuwait Investment Authority	410	3.25	6	4.138	126.154
4	UAE	Abu Dhabi Investment Authority	999.2	9.205	5	4.832	108.550
5	Brunei	Brunei Investment Agency	40	0.412	1	4.597	97.087
6	Saudi Arabia	SAMA Foreign Holdings	742.9	28.287	4	4.575	26.263
7	Timor-Leste	Timor-Leste Petroleum Fund	15.7	1.222	8	3.666	12.848
8	Libya	Libyan Investment Authority	66	6.154	1	3.658	10.725
9	Oman	State General Reserve Fund	19	3.314	4	4.570	5.733
10	Kazakhstan	Kazakhstan National Fund	88.9	16.912	8	3.913	5.257
11	Azerbaijan	State Oil Fund	36.6	9.356	10	3.878	3.912
12	Botswana	Pula Fund	6.9	2.003	6	4.420	3.445
13	Algeria	Revenue Regulation	77.2	38.481	1	3.168	2.006
14	Chile	Social and Economic Stab. Fund	22.2	17.464	10	5.045	1.271
15	Russia	National Welfare Fund	174.4	143	5	3.574	1.220
16	Iran	National Development Fund	58.6	76.424	5	3.577	0.767

Table 3. Ranking Table Measuring Sovereign Wealth Funds Effectiveness

Since the earliest days of mankind, there is a constant struggling for welfare and splendor. Easiest way to achieve it, is through resource extraction from the nature. In most cases resource extraction brings as today would be defined as “windfall profits”. Resource rents create this windfall profit. **Resource rent is the difference between market price of the resource and the cost of extraction.** During the history these windfall profits were the main cause of wars, conflicts and conquests.

Such a motive had Spanish conquistadors in XVI century conquering and colonizing most parts of southern, western and central South America, just eastern part (Brazil) was Portuguese colony. In Acemoglu and Robinson’s book “Why Nations Fail. The Origins of Power, Prosperity and Poverty” process of colonization is vividly described. Spaniards had highly effective colonization strategy, first implemented by Hernan Cortes in Mexico in 1519. It was simple, but effective, first they capture the native leader, take his wealth and after were extorting local people to give tribute and food. Following step was to settle themselves as the new rulers, taking control of tribute, taxation, and forced labor. Establishing new governing system, organizing the labor called *Encomienda*. Encomienda was the first model of public administration in the colonial time and as we would see down in this part, roots of this administration made crucial difference between the future progress of South America and North America.

As the Spanish began their colonization of the new Continent, England was insignificant player in Europe, just out of devastating civil war- the Wars of the Roses. England did not have the potential to explore the new expanses across the Atlantic and take the advantage of new loot and gold income. Only after the England’s victory over the Armada of King Philip II of Spain during the invasion of England, open the sea gates for conquering new lands. This is happened almost a century later, making them latecomers with disadvantage over Spanish and Portuguese. English chose North America because it was all that was available. The attractive parts of the Americas were already occupied, where the local people were rich for exploitation and where the silver and gold mines were situated.

First English settlement in North America was founded in 1607 in Virginia (named after the company that send its vessels to North America). The settlement was called Jamestown, after the current English monarch, James I. Even though settlers were English, at the beginning they start using the Cortes model of colonization, established by the Spanish conquistadors. Their intention was to capture the local leader and extort the native people, collect the wealth and send it to England. Unfortunately for the settlers they were within the territory of Powhatan Confederacy, a union of some thirty polities, much stronger than the settlers and their plans were thwarted, even refuse to trade with the settlers. It was not an easy time for new comers, during the following few winters the settlement barely survived. A man named John Smith saved the colony. His cunning and shrewdness, secured vital food supplies, organizing trade missions. During one of these missions he was captured and brought in front of the native king. Smith was the first Englishman to meet the king. His live was saved by king's daughter Pocahontas. Smith was the first who realized that the colonization model that worked for Cortes, it's not working in North America and they can not survive only relaying on locals for food or trade. People of Virginia did not have precious metals, unlike Incas and Aztecs in South America. Smith informed directors of his company in England to change the way of governing the colony. Several new methods were changed before implementing one successful method. Previous methods were focused only on exploitation of the local people and resources, and exactly that was the reason they were unsuccessful.

Finally Virginia Company realized current strategy is not effective, so they did drastic change. The only possible way to build sustainable society was to give settlers incentives. Company started giving each male settler fifty acres of land and fifty additional acres for each member of his family and servants brought to the new land. Their houses were given to them and were freed from the contracts they had with the company. Also all adult men were given a say in the laws and institutions governing the colony. **These were the beginnings of democracy in United States.**

Other part of designing the sustainable society was the struggle for **creation strong institutions**, which gave incentives to invest and work hard. Exactly this part was the foundation of the United States public administration. This was the crucial element that made the difference in today's economic prosper nations in North America and less prosper nations in Central and South America. Each time when some efforts were made for setting up institutions that would heavily restrict the political and economic rights for all but selected elite in the North American colony, like Spanish did, were met with fierce resistance and were unsuccessful, unlike in other Americas.

2. What is Public Administration

2.1 Definition and Frame of Public Administration.

Definition of Public Administration

Public administration is the administrative apparatus of the authorities (government). Its main task is to provide services to the participants in the society (people, institutions, companies) in order to organize and simplify the society. The question which rises here is: how efficiently is this task performed? This opens additional questions: How you can measure this efficiency? Is there some scale? What exactly needs to be measured to determine the overall efficiency? What are the boundaries of the public administration, and are these boundaries sharp or they are overcrossing different fields? This book tries to answer these questions and to compare the public administration efficiency in resource economies with public administration efficiency in OECD countries based on the newly created measurement system called IPAE.

Since its beginnings as an independent part of the state in the end of 19th and early 20th century, public administration has had to constantly keep its role balanced between administrative and political interference. In theory political interference should be narrowed down to minimum, but in practice the trend is the opposite, especially in underdeveloped countries, where **public administration is often**

misused in order to achieve a certain level of power or to protect personal interests. However, public administration is an inseparable part of a country's political process. A strong and efficient public administration can be used to improve welfare. Weak and inefficient public administration can be very costly, problem-causing and dangerous for the country; however, public administration can be very useful and progressive for countries with a strong and efficient system.

“Public administration consists of all those operations having for their purpose the fulfillment or enforcement of public policy”. – Leonard D. White

“Public administration is concerned with ‘what’ and ‘how’ of the government. The ‘what’ is the subject matter, the technical knowledge of a field, which enables the administrator to perform his tasks. The ‘how’ is the technique of management, the principles according to which co-operative programmes are carried through to success. Each is indispensable, together they form the synthesis called administration”. – Marshall E. Dimock

Frame of Public Administration

There is a big debate about the scope of the public administration. In general there are two main perspectives about its scope: *narrow perspective (POSDCoRB)* and *wide perspective (Subject Matter)*. According to the narrow perspective, scope of the public administration is limited to those aspects of governance which are related only to the executive branch. The main proponent of this perspective was the social scientist and public administration expert Luther Gulick. He developed his own model called POSDCoRB, which reflects the classic view of administrative management (Gulick and Urwick, 1937). POSDCoRB stands for

- **P- Planning:** to create a plan in order to achieve some goal.
- **O- Organizing:** creation of an infrastructure or a team, usually government to delegate the tasks.
- **S- Staffing:** training the stuff necessary to accomplish the task.

- **D-** Directing: the process of making decisions and implementing these decisions on the fundamental level, at the same time responsible for leading the entire task.
- **Co-** Coordinating: the linker and coordinator between the task and the stuff in-charged of fulfilling the tasks.
- **R-** Reporting: informing the directors for the progress and/or eventual issues if appears during the process of fulfillment the task. Also informing the lower hierarchy levels about the progress.
- **B-** Budgeting: creation of a financial plan about the expenses that will appear during fulfillment of the task.

Gulick's view on the scope of public administration is focused on the tools of public administration; it does not show the essence of administration. It is a technic-oriented view, but easily measurable.

Wide perspective on the scope of public administration is more accurate in essence; **this is the main trait of IPAE. Excluding the fields indirectly related to public administration would not accurately define today's public administration; therefore, measuring the public administration efficiency in this narrow scope would be unreliable.** I strongly believe that a wider scope of public administration is the realistic presentation of today's public administrations. People expect more services from public administration today: better education, public health care, social security, pension, welfare etc. This is not possible without considering all aspects of governance. This means that modern public administration cannot limit itself to only of keeping law, order and justice and collection of revenue and taxes. **It has to include all three types of government: Legislative, Judicial and Executive.** For example, the police have their own methods of fighting crime and sustaining law and order which are more important than the narrow principals of institution and its management. Inclusivity of these matters is more reliable than just the formalities.

The expansion of public administration is inevitable. As the scope and power of public administration also expands, it also begins to take on more responsibilities. This is a very critical time in its development: **every country which wants modern public administration must differentiate comprehensive and efficient public administration from a comprehensive but inefficient one.** Two scientists—both pioneers in public administration science—were the first to introduce this wide scope perspective of public administration. Woodrow Wilson in his article “Study on Administration” (Wilson, 1887) and Leonard White in his book *Introduction to the Study of Public Administration* (White, 1937) both strongly advocate the broad perspective of public administration.

Today, the USA has a wide scope public administration; they also incorporate the private-sector style models in public administration. In order to improve its efficiency, a limited merger is attempted between public and private sector. This new method is called New Public Management (NPM), first introduced by Osborne and Gaebler in their famous book *Reinventing Government* (Osborne and Gaebler, 1992). Implementing IT systems in public administration lead to a digital era of governance—a successor of NPM.

“Public administration is an instrument with two blades like a pair of scissors. One blade may be knowledge of the field covered by POSDCoRB; the other blade is knowledge of the subject matter in which these techniques are applied. Both blades must be good to make an effective tool”. - Lewis Meriam

2.2 Difference between Effectiveness and Efficiency

Although *effectiveness* and *efficiency* look similar, there is a significant difference between them. The purpose of explaining these terms is to be able to recognize the difference between them, and to understand why my measurement was called Index of Public Administration Efficiency, but not Index of Public Administration Effectiveness.

Effectiveness is all about achieving the final aim, while efficiency is how well you did this job: it measures the quality. Effectiveness is doing the right things and achieving the goal. Efficiency is doing the things right, in the optimal way (*see Table 4*). It is very important to distinguish these two terms, especially if it is related to measuring. **IPAE is measuring the efficiency of the public administration**, that it, how good public administrations do their job. If the public administration effectiveness was measured, then I would have had to measure **if public administration was fulfilling their tasks and how many of their tasks were fulfilled, but not how they did it, the expenses or the resources spent, or if it was it fast, cheap and accurate or if was it expensive, time consuming and inaccurate**. We would not know these things if the public administration effectiveness was measured.

	Efficiency	Effectiveness
Goal Oriented	Yes	Yes
Effort Oriented	Yes	No
Process Oriented	Yes	No
Time Oriented	Yes	No

Table 4. Efficiency and Effectiveness Orientation

For example, if two judicial systems in two different countries have property issues to resolve. If both systems resolve the issue, that means that two systems are effective. If the first country resolves the property issue in twice the time of the second, then the first country is half as efficient as the second.

If the effectiveness of these two judicial systems was measured, the two countries would have the same result: they are equally effective, because they achieved the final goal (resolve the case). But if efficiency was measured, the conclusion would be that second judicial system is twice as efficient as the first one, which gives us more accurate perception on the judicial systems in the countries.

2.3 Culture and Tradition as Factors in Efficiency of Public Administration

In my humble opinion culture and tradition are very important factors in public administration efficiency. It is not important only for the public administration, but for overall socio-economic development. Thus, we are going to consider the impact of culture and tradition on the efficiency of public administration. **Measuring the impact of culture and tradition is abstract**, and cannot be taken into consideration while measuring the efficiency because you cannot measure the impact this factor has in the overall efficiency. Often this can be the decisive factor, making a difference in efficiency. Every country has its own cultural values, habits and beliefs, often interfering in various aspects of the country's society and causing some tremors in its functioning.

Culture and traditions are part of the country's identity. This identity is also reflected in public administration. Different countries have different cultural identities, which results in differences in public administration. Scandinavian public administrations are very different from Balkan or Turkish public administrations. **A country's public administration can follow the trends of its development, new technology and methods can be implemented, but can never be rid of the tradition of its native region.** Thus its efficiency does not always depends only on its expertise, salary, management, strategic planning, usage of resources, inter- institutional cooperation etc. **but also on cultural values and habits of people working in that specific public administration.**

This phenomenon best can be noticed by international companies, because they conduct business in different places around the globe. Employees have experienced different public administrations and faced everyday issues. Although similar in expertise and salaries, different public administrations have different service provision efficiency. International companies often even organize special trainings in cross-cultural management for their traveling employees, where they learn the cultural

background of the destination country. They even give them guidance and some unconventional tips on how to solve different problems in specific countries.

2.4 Public Administration in Resource Economies

What is a Resource Economy?

The definition for a resource economy is taken from Kaznacheev's report on "*Resource Rents and Economic Growth*": "a country is a resource economy if over 25% of its exports consist of natural resources and the ratio of resource exports to GDP is above or close to 10% (some countries are added, which have this share slightly below 10% of GDP). The former criterion is used by a number of authors and is consistent with the IMF definition of resource-dependent countries. The latter is added to ensure that countries with very low volumes of overall exports do not fall into the abundance category." In addition, the list of countries that we established as qualifying is based on IMF and United Nations (UNCTAD) data (Kaznacheev, 2013).

Resource economies:

- | | | |
|-------------------|----------------|------------------------|
| 1. Algeria | 19. Guinea | 37. Norway |
| 2. Australia | 20. Guyana | 38. Oman |
| 3. Azerbaijan | 21. Iceland | 39. Peru |
| 4. Bahrain | 22. Indonesia | 40. Qatar |
| 5. Bolivia | 23. Iran | 41. Russian Federation |
| 6. Botswana | 24. Jamaica | 42. Saudi Arabia |
| 7. Brunei | 25. Kazakhstan | 43. Sierra Leone |
| 8. Burkina Faso | 26. Kuwait | 44. South Africa |
| 9. Cameroon | 27. Kyrgyzstan | 45. Suriname |
| 10. Canada | 28. Libya | 46. Tanzania |
| 11. Chad | 29. Malaysia | 47. Timor-Leste |
| 12. Chile | 30. Mali | 48. Trinidad & Tobago |
| 13. Colombia | 31. Mauritania | 49. UAE |
| 14. Côte d'Ivoire | 32. Mexico | 50. Venezuela |
| 15. Ecuador | 33. Mongolia | 51. Yemen |
| 16. Egypt | 34. Mozambique | 52. Zambia |
| 17. Gabon | 35. Namibia | 53. Zimbabwe |
| 18. Ghana | 36. Nigeria | |

It has to be mentioned that original number of resource countries is 67, but because there is no data for some countries (Laos, Bhutan, Togo, Papua New Guinea, Nauru, Congo DR, etc.) for most of the 40 sub-parameters, the list here is 53 countries, which is around 80% of the resource economy countries. We also add Malaysia and Mexico to this list; although they do not have exactly 10% ratio of resource export to GDP, they nonetheless have a very high share of natural resources in their export.

Why is Public Administration Important in Resource Economies?

Current global oil crises, where the oil prices are plummeting, could be explained by several factors. Influence of shale revolution in US is certainly one of the most influencing. Because of the shale revolution in US, its oil and gas production increased. **Today's sharp decrease in oil prices, stumbles oil dependent economies across the world, struggling to balance their budgets, sustain economic growth and to stabilize the national currency rates.** Most of the resource economies are oil economies. As for now, countries with inefficient public administration, harder mitigate these negative effects.

Shale revolution's innovation encourage shale oil and shale gas production in US, oversaturating the global demand for oil, which as a final result produced sharp oil price drop. Also there are other factors, as say OPEC's (Organization of the Petroleum Exporting Countries) decision not to cut its production, having drawn lessons from their previous experience, they are afraid not to lose their market share.

US drastically increased their oil and gas production, in the same time making a transition, using natural gas instead of oil, which as a positive side effect reduced the CO₂ emission in the US. As a consequence US became less dependent in importing oil, while its oil production is increasing. There is a high possibility that by the further technologic development in unconventional gas production, also will increase the global gas supply,

which eventually will lead to increasing its share in the overall energy balance.

Public administration is particularly important for resource economies because a lot of things in the economy depend on it. It could be assumed that a resource abundant country would have a corresponding abundance of wealth and the ability to provide for the welfare of the people living there, but this is not always the case. More often **it is very difficult for some countries to properly use the advantage of resource abundance; in some cases it is the main obstacle for the country to develop.** Sachs and Warner in 1995 explained this phenomenon, later known as *resource curse*. In most resource countries, the state is a dominant stake holder in the NOC (National Oil Company), and the way of managing the company is similar to or the same as the managing of the public sector. Usually resource government gains big incomes from resource export, consequently construct big budgets, which is the perfect opportunity for misusing the funds from the budget.

As example let's consider the Norwegian Statoil and Russian's Gazprom and Rosneft comparison in net income per barrel. These three companies are national oil companies and produce more than 1.5 million barrels a day, but if we compare the average net income per barrel, the situation is the following: **Statoil has net income of 16.9 USD/barrel, while Gazprom and Rosneft has 12.3 and 12.2 USD/barrel respectively. This is a significant difference and clear indicator of the company's efficiencies, managed by their governments. This shows that public administration has very important role in managing its national resource companies,** and the success of these companies depends on public administration. Norway has the most efficient public administration from all resource economies, while Russia is 37th out of 53 countries.

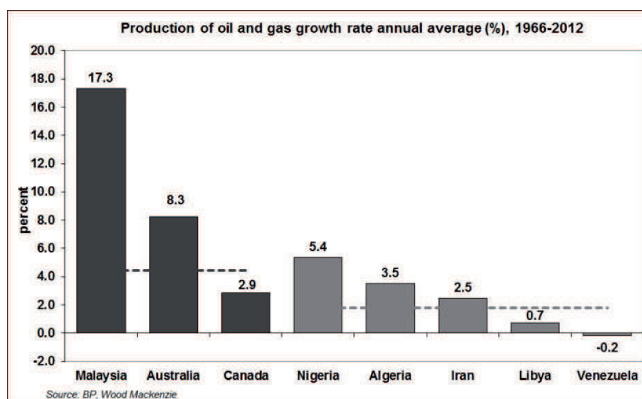


Figure 1. Production of oil and gas annual average growth rate

The next example is Venezuela, where it was transformed from one of the most well-off countries in Latin America in terms of real GDP per capita in 1950s, and is currently in long period of stagnation and even decline. Between 1980 and 2002, its real income declined by 25%. Venezuela has the world's second most combined reserves of oil and gas (next to Iran), but its overall oil and gas production it's lower today than 50 years ago (see Figure 1. Chart taken from Kaznacheev's report: "Resource Rents and Economic Growth"). Venezuela is not the only country which has failed to use its hydrocarbon potential. Iran is a similar story (Kaznacheev, 2013). It poses the largest combined oil and gas reserves and second largest natural gas reserves (next to Russia) in the world, and at the same time is net gas importer. Other such cases are Nigeria, Libya, Algeria, Yemen and Myanmar (Karl, 1997). If you see Figure 1 again, you realize that countries which have poor score on IPAE (Nigeria, Algeria, Iran, Libya and Venezuela, are on the bottom of the ranking table) have very small growth rate, while Malaysia, Australia and Canada (are in top 10 countries on the ranking table) have several times better annual growth rates in production of oil and gas. Obviously there is something wrong with the low-performing countries. **Their institution, part of their comprehensive, weak and inefficient public administrations is the main reason for these results.** Kaznacheev in his paper also

argued that the main factor inhibiting the growth in resource abundant countries is the institutional deficiency, known as *institutional approach*. Institutional approach has two major schools, but the main focus is the institutions, part of the public administration in the country. The first stems from the “resource curse” hypothesis and sees natural resource abundance as a cause of institutional degradation and corruption, consequently effecting growth and development. The second school is “institutionalism,” which puts institutions in the focus, but the causality direction is in the opposite way: resource abundant countries are not cursed to develop deficient institutions, but rather weak institutions are themselves the reason for the slow growth and development.

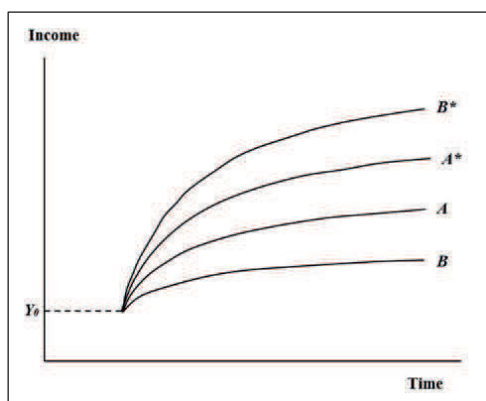


Figure 2. Growth paths

B has grabber friendly institutions and B* has producer friendly (see Figure 2). All the countries have the same income level initially: Y_0 . As you can see from the Figure 2, a resource poor country with producer friendly institutions A* outperforms a resource rich country with grabber friendly institutions B; even resource poor country with grabber friendly institutions A outperforms resource rich country with grabber friendly institutions B. The main conclusion of Mehlum, Moene and Torvik is that **the quality of institutions determines whether natural resource abundance can be blessing or a curse.**

Mehlum, Moene and Torvik published a book called “*Cursed by Resources or Institutions;*” in it they compare 4 hypothetical countries to investigate their growth paths. Countries A and A* are resource poor, with country A having grabber friendly institutions and country A* having producer friendly institutions. Countries B and B* are resource abundant, where

is not decisive factor in the overall IPAE of these countries. Their high score is built by the remaining parameters. Our analysis indicates that better public administration efficiency is directly related to the average annual growth of GDP per capita (PPP).

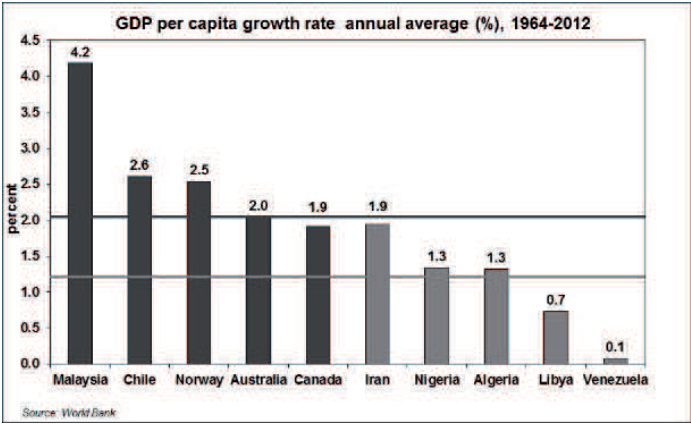


Figure 4. GDP per capita annual average growth rate

From (Figure 4. Chart taken from Kaznacheev’s report: “Resource Rents and Economic Growth”) you can see that Malaysia, Chile and Norway have the biggest annual growth rate, and their positions on the public administration efficiency ranking table are 8, 6 and 1, respectively. On the other side sit Venezuela, Libya, Algeria and Nigeria, countries all located at the bottom of the table with positions 51, 35, 48 and 46, respectively. Venezuela has almost no growth.

3.1.1. Efficiency and Economic Freedom

Another thing strongly related to public administration efficiency is economic freedom. Economic freedom is important because it is a main precondition for economic growth and development. **Countries with higher economic freedom have more efficient public administrations.** Fraser Institute’s economic freedom index was intentionally not included in the creation of IPAE because we wanted to use it in the regressions.

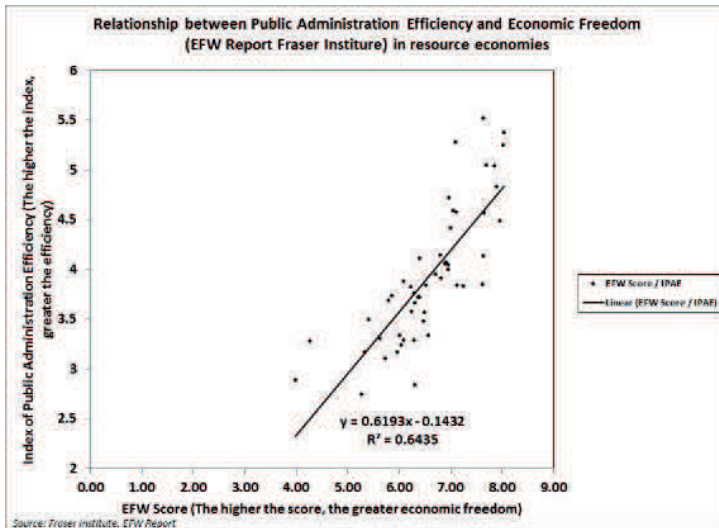


Figure 5. Relationship between public administration efficiency and economic freedom

Regression analysis from *Figure 5* confirms this hypothesis. R^2 which shows the relation between the two parameters (the independent parameter is Economic Freedom measured by the Fraser Institute and the dependent parameter was the Index of Public Administration Efficiency), shows a **very strong relation**, where $R^2 = 0.6435$. That means that Economic Freedom Score predicts or influences IPAE with **64.35%**.

3.1.2. Efficiency and GDP per capita (PPP)

In countries with more efficient public administration, real per capita income is higher, people live longer and there are more investments and more individual freedoms. Average annual GDP per capita (PPP) is also higher in countries with more efficient public administrations (*see Figure 4*). More efficient public administration correlates with lower crime, corruption and illiteracy levels.

As shown in *Figure 6*, there is a **strong correlation between the independent parameter, the Index of Public Administration Efficiency (IPAE), and the dependent parameter, real GDP per capita (PPP) constant International 2011 USD.**

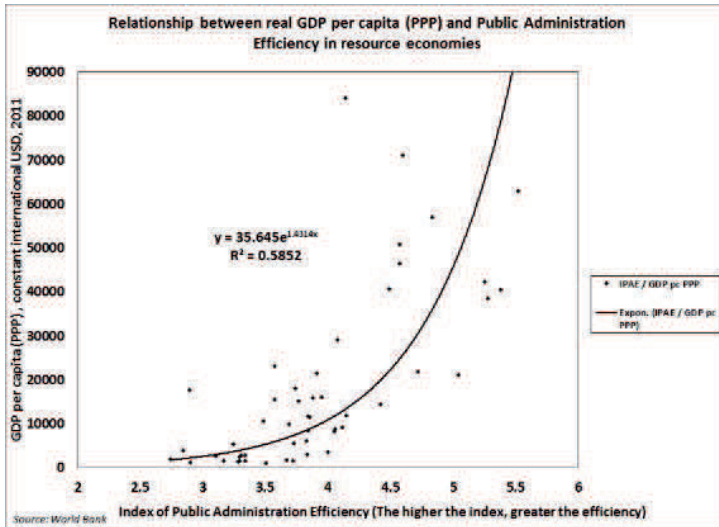


Figure 6. Relationship between GDP pc (PPP) and public administration efficiency

Correlation between these two is $R^2 = 0.5852$, or Index of Public Administration Efficiency can predict or influences on the real GDP per capita (constant international 2011 USD) with **58.52%**.

3.1.3. Efficiency and its Impact on Human Development

Norway, which had the number 1 rank in public administration efficiency, also ranks number 1 in UNDP's Human Development Index. Its public administration is considered to be one of the most reliable and developed in the world, and our measures confirm this assumption.

Regression analysis between the independent parameter (IPAE) and the dependent parameter (UNDP's Human Development Index, or HDI) shows **that countries with more efficient public administration have a higher Human Development Index**. As shown in Figure 7, IPAE can predict or influences on HDI with **57.86%**.

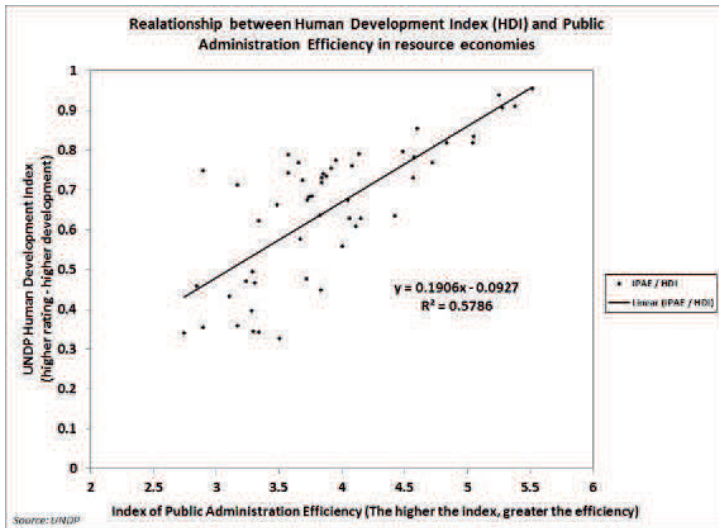


Figure 7. Relationship between HDI and public administration efficiency

3.1.4 Effects of Government Spending

Government spending does not result in more efficiency. This is a very interesting hypothesis, which is confirmed by the regression analysis. Regression shows that there is a weak relation between government spending and the efficiency of public administration; thus, **increased government spending does not equal more efficient public administration** (see Figure 8).

There are countries which have lower government expenditure but efficient public administration. Chile has the best result; with the highest difference between the government expenditure and the IPAE, it is the positive extreme (has small government expenditures, but efficient public administration). The negative extreme in this parameter are Libya and Venezuela: they have big government expenditures, but not efficient public administration. Regression analysis shows a very weak relation between the independent variable, Government expenditure as % of GDP, and the dependent variable, Index of

Public Administration Efficiency (IPAE). $R^2=0.0059$. This shows that **government expenditure influences efficiency of the public administration with an insignificant 0.59%.**

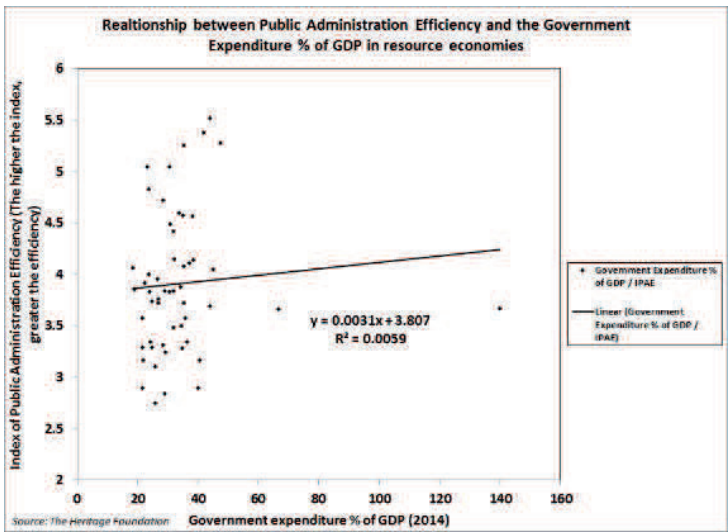


Figure 8. Relationship between public administration efficiency and government expenditure as % of GDP

3.2 Comparing the Public Administration Efficiency in Resource Economies and OECD Countries

Organization for Economic Co-operation and Development (OECD) is a forum of 34 countries founded in 1961. It is an international organization committed to democracy and the market economy. Created to share experience, seek answers to common problems, identify good practices and policies, and co-ordinate domestic and international policies. Its goal is to achieve constant economic growth and improve the living standard of the

member countries, and to promote policies that will improve the economic and social well-being of people around the world. It is a distinguished club of developed countries. Following countries are the members of this organization:

1. Australia	13.Hungary	25.Poland
2. Austria	14.Iceland	26.Portugal
3. Belgium	15.Ireland	27.Slovakia
4. Canada	16.Israel	28.Slovenia
5. Chile	17.Italy	29.Spain
6. Czech Rep.	18.Japan	30.Sweden
7. Denmark	19.South Korea	31.Switzerland
8. Estonia	20.Luxembourg	32.Turkey
9. Finland	21.Mexico	33.United Kingdom
10.France	22.Netherlands	34.United States
11.Germany	23.New Zealand	
12.Greece	24.Norway	

It was not by coincidence why I picked to compare public administration efficiency in OECD countries with those in resource economies, even though 6 countries are in both groups. Comparing resource economies with the most developed group of countries will give clear picture how far behind are the resource economies, which parts of its public administrations are the most lagging behind and what needs to be changed in order to improve the efficiency of public administration in resource economies.

Results shows significant difference between the efficiency of the public administration in resource economies and OECD countries. Average IPAE in resource economies is 3.911, where average IPAE in OECD countries is 4.955. This is difference in exactly 1.044 points (17.4%) which on scale from 1 to 7 is a lot (see Figure 9). But it's also very interesting to see the differences between the 5 different areas of the public administration. Because the methodology of IPAE is described in chapter 5, I have to explain briefly that the Index of Public Administration Efficiency (IPAE) is composed of 5 main fundamental parameters:

- *Institutional Strength*
- *Government Effectiveness*
- *Macroeconomic Environment*
- *Health and Education*
- *Innovation and Technology*

Each of this parameters weights equally 20% of total weight, grouped in 2 group. First group is called public administration measures: Institutional Strength, Government Effectiveness and Macroeconomic Environment. Second group is called public administration outcomes: Health and Education and Innovation and Technology, detailed description is given in chapter 5, the methodology of the index.

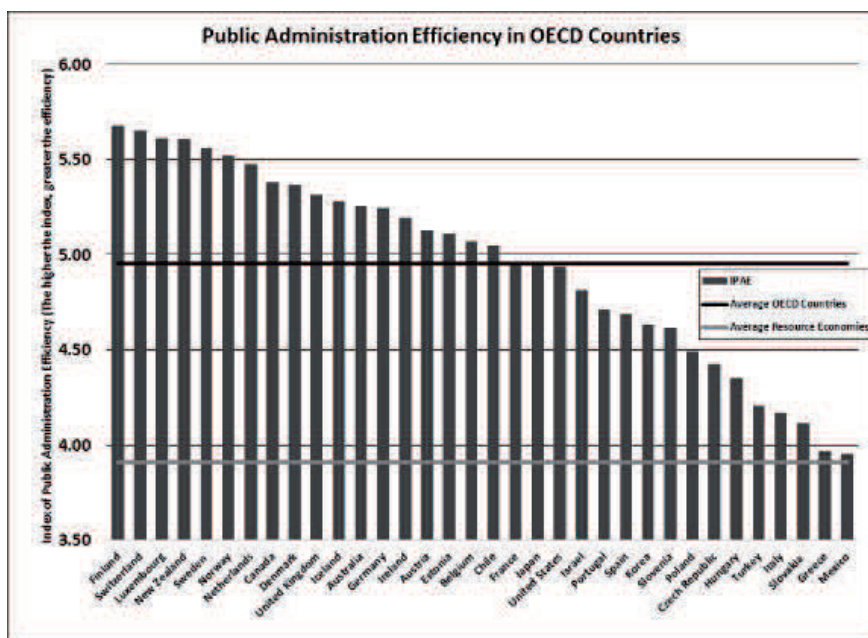


Figure 9. Ranking chart of public administration efficiency in OECD Countries

Finland is the country with the most efficient public administration, with **IPAE of 5.677**, Switzerland, Luxembourg, New Zealand, Sweden and Norway follows, **all with IPAE more than 5.5**. Interesting thing is that Norway is the leader in public administration efficiency in resource economies, but it is sixth in OECD's public

administration efficiency ranking, although it is not lagging behind Finland, almost same IPAE. Scandinavian countries have the most efficient public administration apparatus, all countries are in top 10, Finland is 1, Sweden and Norway are 5 and 6 respectively. **Every OECD's IPAE is above the IPAE's average of the resource economies, which is very intriguing, on the other hand only 6 countries from resource economies are above the OECD's IPAE average.** Least efficient public administrations are Mexico, Greece and Slovakia, with IPAE's nearly as the resource economies average.

	Institutional Strength	Government Effectiveness	Health & Education	Macroeconomic Environment	Innovation & Technology	PA Measures	PA Outcomes	IPAE
OECD Average	5.367	4.492	5.331	4.863	4.720	4.907	5.026	4.955
RE Average	3.944	3.496	4.120	4.588	3.406	4.009	3.763	3.911
Difference	1.423	0.996	1.211	0.275	1.314	0.898	1.263	1.044
Difference (%)	23.718	16.606	20.192	4.575	21.905	14.966	21.048	17.399

Table 5. Differences in averages between OECD and resource economies in areas of public administration

If you see *Table 5* there are some interesting data, showing the differences in the 5 fundamental parameters and the 2 main public administration scopes, between resource economies and OECD's public administration efficiency. First 5 columns are the fundamental parameters each weight 20%, next comes the public administration measures (combination of the first 3 fundamental parameters), weights 60% and public administration outcomes (combination of last 2 fundamental parameters) weights 40%.

From *Table 5* it is discerned the differences and characteristics between resource economies and OECD's public administration. Biggest difference is in Institutional Strength. This shows that **resource economies have weak institutions** compared to OECD countries. **Weak institutions are one of the main causes for low economic performance and low level of democracy in the society.** Corruption, bribery, bureaucracy and misusing the institutions to protect personal interest are the main cause for weakening. **Institutional strength explains why some countries are rich and some poor. Government effectiveness is also poor in resource economies.** Government is

crucial part of the public administration, it is its brain, and it should be effective. Usually in under developed countries, governments are exposed on often changes or they are autocratic for long periods. In both ways that could be the cause for ineffectiveness. **Political will emerges as key player in improving** these 2 aspects of public administration. Health and Education; and Innovation and Technology are lagging behind in resource economies mostly as a side effect from the weak institutions and ineffective government. **Macroeconomic Environment is the only parameter which is similar in resource economies and the OECD.** This occurs as result of countries will to attract foreign investments through good macroeconomic environment, where in most **cases can be masked through laws, regulations and taxation in favor of foreign investors.**

4. Role of Public Administration in Sovereign Wealth Funds

4.1 What is a Resource Curse, Dutch Disease and Norwegian Paradox

Resource economies face the problem called “resource curse”. Resource curse is a phenomenon where **resource abundant countries tend to show worse economic outputs than the economies with fewer natural resources.** “Resource curse” as a term first was used by Auty (1993), to describe this phenomenon of how natural abundant countries are unable to use its resources in order to perform significant economic growth, but in many cases the opposite occurs.

The most obvious example for the negative effect of the resource abundance is the OPEC countries, where GDP per capita growth decreased on average by 1.3%, from 1965 to 1998 (Gylfason, 2000). Sachs and Warner confirms this hypothesis in their research from 1995. As a main cause for the resource curse they stress the “Dutch disease”. Also there is the opposite opinion, which says that Dutch disease does not have big impact on the negative growth in resource economies, but rather the commodity price volatility has more influence on growth and development.

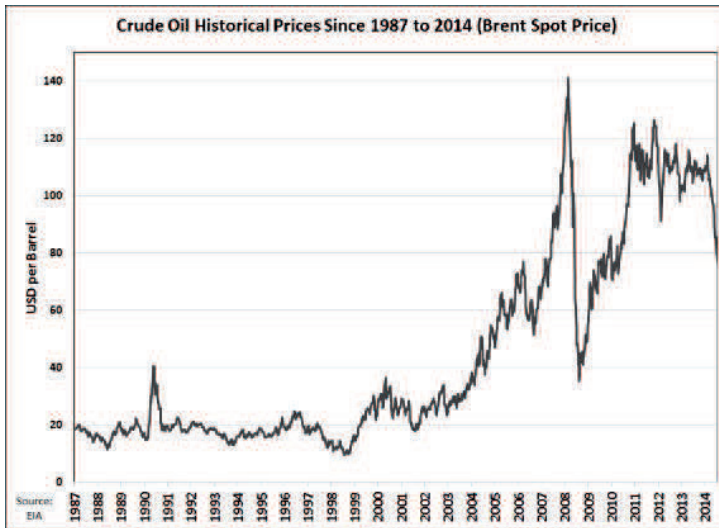


Figure 10. Crude oil historical price since 05.05.1987 to 28.11.2014

Leading researches in this segment were initiated by Cavalcanti (2009, 2011), van der Ploeg and Poelhekke (2010), Leong and Mohaddes (2010). Revenues from the resource rents are subjected to wide fluctuation, in the decade from 1998 to 2008, crude oil price rose from \$10 per barrel to \$145 per barrel (see Figure 10). Resource dependent economies are directly related with the commodity price, because biggest part of its GDP is made from the resource selling, also their budgets are predicted based on the volatile commodity prices.

Political elites in resource rich countries has wide scope for abuse the inflows from the resource rents, through allocating resources to selected constituents. **Windfall profits fuel the corruption in the economy and can lead to excessive borrowing.** Government expects more income, so they start to borrow money, accumulating debt. If commodity price drop, exchange rate also fall and government would have less money to pay the more expensive debt now. Corruption additionally weakens the institutions, actually it is in

elite's favor to have weak institutions, incapable to regulate the sectors within the economy.

Dutch disease is the occurrence where the revenues from the resource rents hinder country's productive economic and service sector in the economy. Traditionally economy is divided into three sectors. First is retrieval and production of raw materials (corn, wood, natural resource extraction), this is the primary sector. Second is processing and manufacturing of these raw materials into final goods e.g. manufacturing steel into machines or textiles into clothes, this is the secondary sector. Third is providing services to consumers and businesses, such as administrative, banking, cinema etc. this is tertiary sector. Problem emerges when one of this sector is more exploited than others. **Dutch disease puts the raw material sector in first place, because of the windfall profits from the resource rents, making this sector more competitive and attractive than the other two**, because of the wages and career opportunities. As a side effect **causes workforce migration from the secondary and tertiary sector into primary**, thus initiate imbalance in entire economy, **weakening the institutions**. Other negative effect caused by the resource rents are the **huge revenues that inflows the economy, increasing the real exchange rate**. **Norwegian Paradox is the opposite of Dutch disease**. Norway is resource economy with sustainable economic growth, almost without any traces of Dutch disease. Here emerges the question: how Norway achieve this high economic growth, although is a typical resource economy. In this part, I will try to answer this question.

4.2 Sovereign Wealth Funds as a Resource Curse and a Dutch Disease Mitigation Tool

Sovereign Wealth Funds. Definition and Purpose

Dutch disease can cause serious trouble in economy of resource abundant country. **Resource abundance seemingly is a blessing, but this is true only if you are aware of the potential risk that brings and if right policies are adopted. Establishing a sovereign wealth fund helps resource economies to mitigate the negative effects of the resource curse and Dutch disease.** There are two main options to reduce this negative threat. First is to reduce the appreciation of exchange rate and try to boost the other two sectors in the economy. Second is to sterilize the huge inflows from resource rents, and try not to put all this money into economy, but to dose it periodically, whenever is necessary. Save the surplus for future generation or for rainy days (if commodity price drop), so the government would have stable revenues even when commodity price is under the predicted one. This mechanism helps to decrease the revenue volatility and in some cases increase transparency.

Actually this is the **purpose of the sovereign wealth funds: stabilization, saving and investment.** Funds may have their origins in commodities or non-commodities. Stabilization function of the fund is to stabilize the fiscal framework, helping to protect the economy from the volatile commodity price. The mechanism is the following, it is very important to predict the commodity price on a long run, which is not an easy task to do (Akerlof and Shiller, 2009), if the commodity price is higher than predicted, then the windfall should be saved and drawn whenever commodity price drops below predicted. Fiscal discipline may also be improved, the aim is to make a balance between fund revenues and government expenditures, not to spend more than you earn. Saving function of the fund is to collect the surplus if the commodity price is higher than predicted. These savings later can be used in several ways, which is also objectives of the funds:

- Put some amount to circulate in economy, in case commodity price falls than predicted and enabling stable revenues for government.
- Save for future generation.
- Invest some amount and earn greater returns than on foreign exchange reserves (not domestic investment preferably, because can multiply the Dutch disease effect).

- Pension reserve funds
- Diversify from non-renewable commodity exports

Sovereign Wealth Fund Institute (SWFI) gives the following definition:

“A Sovereign Wealth Fund is a state-owned investment fund or entity that is commonly established from balance of payments surpluses, official foreign currency operations, the proceeds of privatizations, governmental transfer payments, fiscal surpluses, and/or receipts resulting from resource exports. The definition of sovereign wealth fund excludes, among other things, foreign currency reserve assets held by monetary authorities for the traditional balance of payments or monetary policy purposes, state-owned enterprises (SOEs) in the traditional sense, government-employee pension funds (funded by employee/employer contributions), or assets managed for the benefit of individuals”.

However sovereign wealth funds are not magical cure for the political pressures that results with causing twin problems of overoptimistic commodity price predictions and insufficient fiscal sustainability on a long-run (Davis, Ossowski, Danie and Barnett, 2001). A distinction must be made, sovereign wealth fund is similar like stabilization and saving funds, possessing one additional function, to invest part of the savings, which generate additional incomes. **Sovereign funds are managed by the government (Ministry of Finance or the Central Banks). These bodies manage, regulate and make decisions about the investments, inflows and outflows of the funds.** Up next is such example of the Russian Stabilization Fund. Official site of the ministry of finance of Russian Federation gives the following description about the Stabilization Fund of the Russian Federation¹:

“The Stabilization fund of the Russian Federation ("the Fund") was established on January 1, 2004 as a part of the federal budget to balance the federal budget at the time of when oil price falls below a cut-off price, currently set up at \$27 per barrel. Furthermore the Fund is to serve as an important tool for absorbing excessive liquidity, reducing inflationary pressure and insulating the economy from volatility of raw material export earnings. The Fund accumulates revenues from the export duty for oil and the tax on the oil mining operations when the price for Urals oil exceeds the set cut-off price. The capital of the Fund may be used to cover the federal budget deficit and for other purposes, if its balance exceeds 500 billion rubles. Spending amounts are subject to the federal budget law for the corresponding fiscal year. As the capital of the Fund had exceeded the level of 500 billion rubles in 2005, part of its surplus was used for early foreign debt repayments as well as to cover Russian Fund's deficit. The details of these transactions in 2005 are as follows:

- *93.5 billion rubles (\$3.33 bill. eq.) was used for early debt repayment to the International Monetary Fund (IMF);*

¹ <http://www.minfin.ru/en/stabfund/about/>

- 430.1 billion rubles (\$15 bill. eq.) was used for the first debt repayment installment to the countries-members of the Paris Club;
- 123.8 billion rubles (\$4.3 bill. eq.) was paid to Vnesheconombank (VEB) for loans provided to the Ministry of Finance in 1998-1999 for servicing the state foreign debt of Russian Federation;
- 30.0 billion rubles (\$1.04 bill. eq.) was transferred to the Russian Pension Fund.

The Fund is managed by the Ministry of Finance of the Russian Federation ("the Ministry of Finance") pursuant to procedure defined by the Government of the Russian Federation ("the Government"). Some functions of asset management may be delegated to the Central Bank of the Russian Federation ("the Bank of Russia") in accordance with its agreement with the Government. In accordance with the Fund's objectives its capital is to be invested in foreign sovereign debt securities. Securities' eligibility criteria are subject to the Government's approval. The Ministry of Finance is empowered by the Government to establish the Fund's currency composition and its strategic asset allocation in line with the investment policy for the Fund's management. The Ministry of Finance may use one or both of the following schemes defined by the Government to invest the Fund's capital:

- *investment in eligible foreign fixed income securities directly;*
- *allocation to the Federal Treasury's accounts with the Bank of Russia in foreign currency with the total return of these accounts based on indices composed of eligible foreign debt securities and defined by the Ministry of Finance.*

The Fund assets are currently invested solely under second scheme (allocation to the Federal Treasury's accounts with the Bank of Russia).

The Government determined that eligible debt securities for the Fund investment are to correspond to the following requirements:

- *Fixed income securities of Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, the United Kingdom, and the USA, denominated in US dollars, euro, GB pounds (sovereign debt securities);*
- *Issuer shall have a long-term credit rating at AAA/Aaa level (highest investment grade) from at least two of the following three rating agencies: Moody's Investors Service, Standard and Poor's, Fitch Ratings;*
- *Minimum amount outstanding of a candidate security: 1 billion US dollars, 1 billion euro, 500 million GB pound respectively;*
- *Securities shall be bullet;*
- *Securities shall have no call or put options;*
- *Fixed coupon type if a coupon bond;*
- *Not for private placement".*

Sovereign wealth funds were used in more than 44 countries with mixed success.

First country that established such fund is Kuwait in 1953. In addition is shown all funds established since 1953 (see Table 6).

Country	Fund	Year of creation
Kuwait	Kuwait Investment Authority	1953
Kiribati	Revenue Equalization Reserve Fund (RERF)	1956
Botswana	Pula Fund	1966
Nauru	Nauru Phosphate Royalties Trust	1968
Botswana	Revenue Stabilization Fund	1972
Wyoming, USA	Permanent Wyoming Mineral Trust Fund	1974
Papua New Guinea	Mineral Resources Stabilization Fund (MRSF)	1975
Alaska, USA	Alaska Permanent Fund	1976
Alberta, Canada	Alberta Heritage Savings Trust Fund	1976
Kuwait	Future Generation Fund (FGF)	1976
United Arab Emirates	Abu Dhabi Investment Authority	1976
Oman	State General Reserve Fund	1980
Brunei	Brunei Investment Agency	1983
United Arab Emirates	International Petroleum Investment Company	1984
Chile	Social & Economic Stabilization Fund	1985
Norway	The Government Pension Fund of Norway	1990
Colombia	Fondo de Ahorro y Estabilización Petrolera (FAEP)	1995
Chad	Fund for Future Generations	1998
Ecuador	Fondo de Estabilización Petrolera (FEP)	1998
Venezuela	Fondo de Inversión para la Estabilización Macroeconómica-FIEM	1998
Azerbaijan	State Oil Fund	1999
Iran	Foreign Exchange Reserve Fund	1999
Peru	Fondo de Estabilización Fiscal (FEF)	1999
Trinidad & Tobago	Interim Revenue Stabilization Fund (IRSF)	1999
Iran	Oil Stabilization Fund	1999
Kazakhstan	Kazakhstan National Fund	2000
Algeria	Revenue Regulation Fund	2000
Ecuador	Fondo de Estabilización Social y Productiva y Reducción del Endeudamiento Público (FEIREP)	2002
United Arab Emirates	Mubadala Development Company	2002
Russia	Stabilization Fund of the Russian Federation	2004
Nigeria	Excess crude account	2004
Venezuela	Fondo de Estabilización Macroeconómica (FEM)	2004
Qatar	Qatar Investment Authority	2005
Timor-Leste	Timor-Leste Petroleum Fund (TLPF)	2005
United Arab Emirates	Ras Al Khaimah Investment Authority	2005
Bahrain	Mumtalakat Holding Company	2006
Libya	Libyan Investment Authority	2006
Mauritania	National Fund for Hydrocarbon Reserves	2006
Oman	Oman Investment Fund	2006
United Arab Emirates	Dubai World	2006
United Arab Emirates	Investment Corporation of Dubai	2006
São Tomé & Príncipe	National Oil Account & Permanent Fund	2006-7
Trinidad & Tobago	Heritage and Stabilization Fund (HSF)	2007
United Arab Emirates	Emirates Investment Authority	2007

Table 6. Sovereign funds in the world

4.3 Role of Public Administration in Sovereign Wealth Funds

Rules for regulating the inflows and outflows from the fund are usually pre announced or legislated. There are 3 ways to determine the cut-off price: 1 way is based

on commodity price (e.g. Russia); 2 way is based on revenue level (e.g. USA-Alaska); 3 way is based on both (e.g. Venezuela). The threshold is determined on formula based historical or predicted values for the revenues or commodities, although threshold can be dynamically determined, based on constant monitoring of the values. **Sovereign wealth funds are managed by the governments. This means that public administration is in charge for the managing. Hence, how efficient is the public administration directly will reflect on the management efficiency over the sovereign wealth fund.** Most funds are extra budgetary, with degree of independence, but also there are funds incorporated within the budget (e.g. Norway).

Norwegian Paradox

Norwegian Government Pension Fund Global (GPFG) is considered to be one of the best practices in sovereign funds. It is a sovereign wealth fund where the surplus of the Norwegian petroleum income is held. Although its name includes the word “pension”, actually is not a pension fund, as it derives its financial backing from oil rents and not pensioners. Its success is combination of precautionary measures as high saving rates and a foreign asset structure. That is the reason why is used as a model in creation of other funds (e.g. Timor-Leste, Nauru, Ecuador).

Norway’s economic performance was described as a “paradox” (OECD, 2007) and (Gronning, Moen and Olsen, 2008). **It is a paradox because has one of the highest productivity and income in the world, even when oil and gas rents are excluded from the calculations. Meanwhile the Norwegian R&D are small share of GDP, comparing with the other industrial economies.** Fagerberg explains this paradox by analyzing three related areas of the Norwegian economic growth: innovation, policy, and path dependency. He explains that Norway’s performance was influenced by companies, entrepreneurs, and public sector (Faberger, Mowery and Verspagen, 2009).

Effectiveness of Sovereign Wealth Funds

There is no specific measurement that measures the effectiveness of the sovereign wealth funds. There are several studies, which tries to measure it. Bagattini measures the fiscal stability in the countries with sovereign funds (Bagattini, 2011). Davis used time series analysis and structural breaks to determine if the fund has significant influence on government expenditures (Davis et al, 2001b). Sovereign Wealth Funds Institute has a rankings which measures the assets amount in the funds.

I have measured the effectiveness of sovereign funds by their wealth per capita (total assets of the fund divided by the population of the country). That way shows how much money will receive every citizen if the sovereign fund's money were equally distributed. Country's funds were selected from the Sovereign Wealth Fund Institute on the following way:

- Sovereign fund must have more than \$5 billions
- Sovereign fund must be with commodity origin
- All different commodity funds in same country were added on the biggest commodity fund in that country, in order to calculate the whole amount of assets

Public Administration Efficiency and Sovereign Wealth Fund Effectiveness

As I mentioned, sovereign fund effectiveness was measured as the wealth of the sovereign fund per capita. Results show strong relation between public administration efficiency and sovereign fund wealth per capita. **More efficient public administration means higher sovereign fund wealth per capita.** Norway has the most efficient public administration in resource economies and also has highest sovereign fund effectiveness of all funds today in the world, having \$173 518 per capita (if the Norwegian's sovereign fund wealth was equally distributed among the Norwegian population, every citizen

would receive \$173 518). After Norway, follows: Qatar, Kuwait, UAE, Brunei and Saudi Arabia (see Table 3).

Also in the table there is a column called Linaburg-Maduel Transparency Index. This is a method of rating transparency in respect to sovereign wealth funds. The index was developed in 2008 at the Sovereign Wealth Fund Institute by Carl Linaburg and Michael Maduell. Index is based off 10 principles that depict sovereign funds transparency to the public.

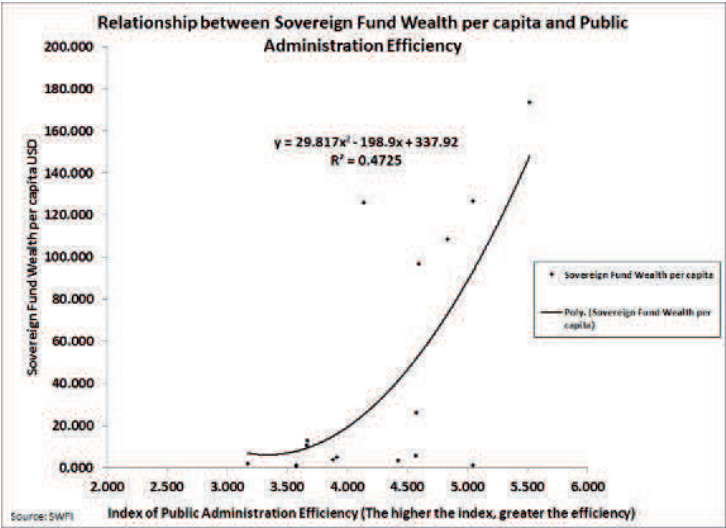


Figure 11. Relationship between sovereign fund wealth per capita and public administration efficiency

Regression analyses confirms my thesis that more efficient public administration means higher sovereign fund wealth per capita (see Figure 11). This is direct reflection, because sovereign funds are managed from the state institutions i.e. from the public administration. Regression analysis between the independent parameter (IPAE) and the dependent parameter (Sovereign Fund Wealth per capita) shows **that countries with more efficient public administration have a higher Sovereign Fund Wealth per capita**. As shown in

Figure 11, IPAE can predict or influences on Sovereign Fund Wealth per capita with 47.25%.

Sovereign Wealth Funds can reinvest some portion of its assets, so the fund can grow even when natural resources will be depleted.

5. Methodology of the Index of Public Administration Efficiency (IPAE)

The Index of Public Administration Efficiency (IPAE) measures the efficiency of the public administration in the country. It is a newly developed index for the purpose of this research, used in order to determine the public administrations efficiency in the resource economies. **IPAE is measuring the wider scope of the public administration; it is not concentrated only on the technical (measurable) aspects of the public administration, but also on the fields indirectly related to the public administration, such as health, education, innovation, technology and finance.** There is a big debate today about the frame and role of the public administration; it is not that easy to define to what extend public administration can interact in the economy, social policy and public sector in the modern society. The reason we decided to take this wider scope of the IPAE is because we think that public administration does not have only a technical role in society, but is also a very important factor determining the overall progress/regress of the country. The logic for including additional indicators is to give a more rounded picture of public administration quality.

IPAE is represented on a scale from 1 to 7, where 1 represents the worst grade (nothing) of the specific parameter, and 7 represents the best grade. All of the data used

in composing IPAE is the latest available, from the range of 2010 to 2014. It is not possible to find up-to-date information for each parameter. Most of the parameters are from 2012 and 2013; the gap of 4 years is optimal, because it is not big time range, where significant economical and geopolitical changes can occur.

5.1. Composition of the Index of Public Administration Efficiency- IPAE

Index of Public Administration Efficiency (IPAE) is constructed in three levels gradually. The composition is recursive and it starts dividing the IPAE into simpler parameters distributed in three levels, coming to the final third level, with 40 sub parameters, which are the basic units of the IPAE (*see Figure 12*). The three main levels are:

1. Wider Scope of the Index (2 Parameters: PA Measurement- 60% Weight; PA Outcome- 40% Weight)
2. Fundamental Parameters (5 Parameters, each weights 20% of the overall IPAE)
3. Sub Parameters (40 Parameters, each weights 2.5% of the overall IPAE).

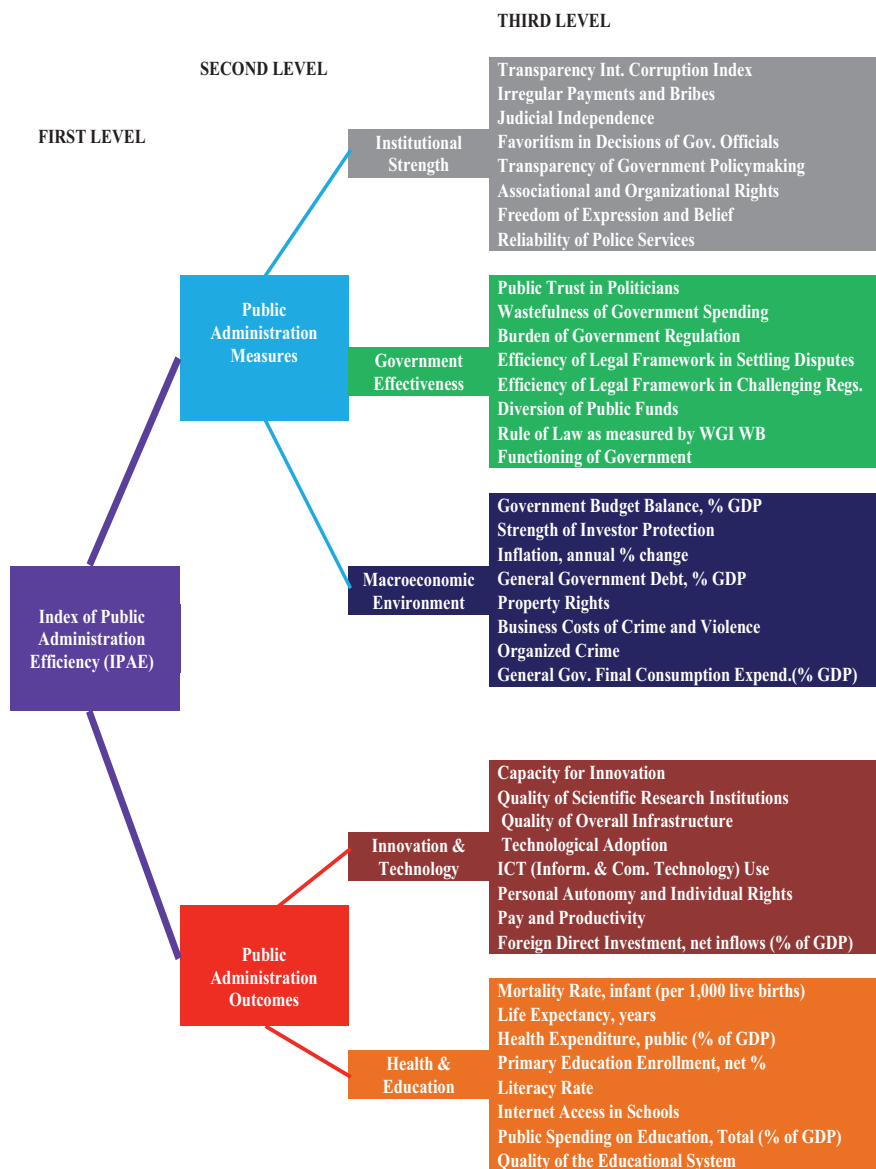


Figure 12. Index of Public Administration Efficiency Composition

FIRST LEVEL

The first level determines the scope (direction) of the IPAE: whether it is a direct public administration measure or indirect outcome from it. This is the genetics and recognizable sign of this index. The reason behind this is the wide frame of the public administration described at the beginning of the report. The first level is divided into two parameters:

- **Public Administration Measures – PA Measures**
- **Public Administration Outcomes – PA Outcomes**

The first component in this level, the *Public Administration Measures*, weighs 60% of the overall IPAE, while the *Public Administration Outcomes* weighs 40%. You can also compare the grade every country has separately received for these two parameters (*see Table 1*). The final index can be formed as the average of these two.

I did a deep analysis on almost every index existing today related to IPAE. In this analysis, we included compositions of the following: World Economic Forum's Global Competitiveness Index, Transparency International's Corruption Index, World Bank's Worldwide Governance Indicator and Doing Business Index, Global Innovation Index, Fraser Institute's Economic Freedom of the World Index and all 1289 indexes from World Bank. The most relative parameter to IPAE is the Global Competitiveness Index, where I took 24 parameters from their 159 parameters.

SECOND LEVEL

The two directions of public administration are separated into 5 fundamental parameters. PA Measures includes three (60% weight) of those fundamental parameters: *Institutional Strength*, *Government Effectiveness* and *Macroeconomic Environment*. PA Outcomes includes two (40% weight) fundamental parameters: *Health and Education*; and *Innovation and Technology*.

Public Administration Measures

Public Administration Measures are far more quantitative than qualitative measures, which directly describes the efficiency of public administration. This is exactly the main idea of dividing the IPAE into two sub-scopes: not only to measure the quantitative aspect of the public administration, but also the outcomes that it produces or influences. The total weight in overall IPAE is 60%. Public Administration Measures is composed of 3 fundamental parameters:

Institutional Strength (20% weight) measures the quality and independence of the legal, administrative and service providing framework, within which the individuals, firms and governments, interact. After the recent economic and financial crisis, public institutions play the key role in the speed of post-crisis recovery in today's globalized world, where almost every economy is connected and dependent. The strength of institutions also play an important role in investment decisions, because every investor wants to know the level which his investment would be protected. Institutions today have a wider role than the legal, regulatory and service they are providing. They are a very significant factor in determining the freedom and growth of the economy, market and society. As a direct PA Measure, Institutional Strength is focused on describing the institutions in a narrow sense: institutional corruption and bribes, transparency of government policymaking, judicial independence, personal and organizational freedom and rights are part of this measurement.

Government Effectiveness (20% weight) measures the quality and quantity of the government: law adoption, efficiency of policy's formulation and implementation, managing service operations and diversion of the public funds. In the latest World Bank report on the Worldwide Governance Indicators, the following definition for Government Effectiveness is given: "*Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from*

*political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.”*² Government is a very important part of the public administration and to a big extent drives it by its regulatory and policymaking role. In comparable sense, it is the brain of the public administration. In most cases today, the government reflects the public administration in the country; a public administration mirrors the type of government it belongs to.

Macroeconomic Environment (20% weight). This is one of the key fundamental parameters that show the macroeconomic shape of the country. Stability and sustainable growth of the country’s macroeconomic environment to a big extent depends on the public administration and its efficiency. Fiscal deficits and out-of-hand inflation rates strangles companies’ operations and influence their efficiency. The government cannot provide services on satisfactory level for companies if they do not have their budget balanced or low interest payments of its debts.

Public Administration Outcomes

Public Administration Outcomes are more qualitative measures. They are not strongly and directly related to the public administration, but they are an important indicator of the overall effectiveness and efficiency of the public administration. Branches such as health care and education are part of the public sector in almost all the countries; in most of them, they are entirely part of the public sector. This is especially more evident in resource economies, hence the importance of inclusivity of these public administration outcomes. The total weight in overall IPAE is 40%. Public Administration Outcomes is composed of two fundamental parameters:

Health and Education (20% weight). There is very big debate about health care and educational system in the world currently. Politicians win or lose elections based on the

² <http://info.worldbank.org/governance/wgi/index.aspx#doc>

success and vision they have on social policies, especially in these two sectors. All developed countries are very well aware of the importance of a good health care and educational system, and this is the reason why they invest so heavily in it. These systems are the backbone of every progressive economy. A healthy and educated workforce is the primary condition to achieve sustainable growth of the economy. A poor health care and educational system cause significant costs to business and economy. Workers are often absent from work, and an uneducated work force is inefficient, leading to additional costs. Public administration determines what the health care and educational system look like, making it the difference between a low-cost, efficient system and one that is large and inefficient.

Innovation and Technology (20% weight). These closely related sectors of the economy are indirectly related to public administration. This is very important for the public administration, reflecting the capability of public administration to produce and implement new methods for improving efficiency. In today's Information Age, previously mentioned fundamental parameters are conventional and build the structure of the economy, but they eventually run into diminishing returns. As history has shown, one breakthrough in innovation and technology is enough to transform one country into economic giant, or can plunder its resources and potential. Innovation and technology do not see daily results; they need time and investment in order properly to develop. It is no coincidence that the most advanced companies allocate large portions of their budget to Research and Development.

THIRD LEVEL

This is the level where IPAE is actually created out of 40 different sub-parameters: 8 sub-parameters in 5 fundamental parameters, equally weighted of 2.5% each. We have picked these sub-parameters as a result of intensive research, and they reflect our view on

what aspects public administration should be measured. IPAE is the average from the all equally distributed 40 sub-parameters. It can also be calculated as average of the 5 fundamental parameters, or the average of the two scope parameters PA Measures and PA Outcomes. Each sub-parameter is defined by its institution or organization; we have included the direct link to each sup-parameter for reference.

Public Administration Measures

5.1.1 Institutional Strength

Transparency International Corruption Index³ is from Transparency International. “The Corruption Perception Index 2013 measures the perceived levels of public sector corruption in countries worldwide, scoring them from 0 (highly corrupt) to 100 (very clean)”.

Irregular Payments and Bribes⁴ measurement comes from the World Economic Forum. “The average score is taken across the five components of the following Executive Opinion Survey: how common is it for firms make undocumented extra payments or bribes connected with (a) imports and exports; (b) public utilities; (c) annual tax payments; (d) awarding of public contracts and licenses; (e) obtaining favorable judicial decisions? In each case, the answer ranges from 1 (very common) to 7 (never occurs)”.

Judicial Independence⁵ is from the World Economic Forum. “To what extent is the judiciary independent from influences of members of government, citizens or firms”?

Favoritism in Decisions of Government Officials⁶ is used by the World Economic Forum. “To what extent do government officials show favoritism to well-connected firms and individuals when deciding upon policies and contracts”?

³ <http://cpi.transparency.org/cpi2013/>

⁴ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

⁵ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

⁶ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

Transparency of Government Policymaking⁷ is by the World Economic Forum. “How easy is it for businesses to obtain information about changes in government policies and regulations affecting their activities”?

Associational and Organizational Rights⁸ measurement comes from the Freedom House. “Is there freedom of assembly, demonstration, and open public discussion? Is there freedom for nongovernmental organizations? (Note: This includes civic organizations, interest groups, foundations, etc.). Are there free trade unions and peasant organizations or equivalents, and is there effective collective bargaining? Are there free professional and other private organizations”?

Freedom of Expression and Belief⁹ is also by the Freedom House. “Are there free and independent media and other forms of cultural expression? (Note: In cases where the media are state-controlled but offer pluralistic points of view, the survey gives the system credit.) Are religious institutions and communities free to practice their faith and express themselves in public and private? Is there academic freedom, and is the educational system free of extensive political indoctrination? Is there open and free private discussion”?

Reliability of Police Services¹⁰ is from the World Economic Forum. “To what extent can police services be relied upon to enforce law and order”?

5.1.2 Government Effectiveness

Public Trust in Politicians¹¹ is by the World Economic Forum. “How would you rate the ethical standards of politicians”?

⁷ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

⁸ http://www.freedomhouse.org/report/freedom-world-2014/methodology#.U2ZFh_mSyJF

⁹ http://www.freedomhouse.org/report/freedom-world-2014/methodology#.U2ZFh_mSyJF

¹⁰ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

¹¹ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

Wastefulness of Government Spending¹² is by the World Economic Forum. “How efficiently does the government spend public revenue”?

Burden of Government Regulation¹³ is by the World Economic Forum. “How burdensome is it for businesses to comply with governmental administrative requirements (e.g., permits, regulations, reporting)”?

Efficiency of Legal Framework in Settling Disputes¹⁴ is by the World Economic Forum. “How efficient is the legal framework for private businesses in settling disputes”?

Efficiency of Legal Framework in Challenging Regulations¹⁵ is by the World Economic Forum. “How easy is it for private businesses to challenge government actions and/or regulations through the legal system”?

Diversion of public funds¹⁶ is by the World Economic Forum. “How common is diversion of public funds to companies, individuals, or groups due to corruption”?

Rule of Law as measured by Worldwide Governance Indicator¹⁷ is from World Bank. “It captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.”

Functioning of Government¹⁸ comes from the Freedom House. “Do the freely elected head of government and national legislative representatives determine the policies of the government? Is the government accountable to the electorate between elections, and does it operate with openness and transparency”?

¹² <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

¹³ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

¹⁴ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

¹⁵ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

¹⁶ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

¹⁷ <http://info.worldbank.org/governance/wgi/index.aspx#doc>

¹⁸ http://www.freedomhouse.org/report/freedom-world-2014/methodology#.U2ZFh_mSyJF

5.1.3 Macroeconomic Environment

Government Budget Balance, % GDP (General government net lending/borrowing (Percent of GDP))¹⁹ is from the International Monetary Fund (World Economic Outlook). “Net lending (+)/ borrowing (–) is calculated as revenue minus total expenditure. This is a core GFS balance that measures the extent to which general government is either putting financial resources at the disposal of other sectors in the economy and nonresidents (net lending), or utilizing the financial resources generated by other sectors and nonresidents (net borrowing). This balance may be viewed as an indicator of the financial impact of general government activity on the rest of the economy and nonresidents”. “Note: Net lending (+)/borrowing (–) is also equal to net acquisition of financial assets minus net incurrence of liabilities”.

Strength of Investor Protection²⁰ was developed by the World Bank’s Doing Business. “Doing Business measures the strength of minority shareholder protections against directors’ misuse of corporate assets for personal gain. The indicators distinguish three dimensions of investor protections: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index) and shareholders’ ability to sue officers and directors for misconduct (ease of shareholder suits index). The data come from a questionnaire administered to corporate and securities lawyers and are based on securities regulations, company laws, civil procedure codes and

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<https://www.imf.org/external/pubs/ft/weo/2013/01/weodata/weoselser.aspx?c=612%2c672%2c614%2c193%2c548%2c912%2c678%2c419%2c682%2c273%2c514%2c948%2c218%2c616%2c688%2c223%2c518%2c516%2c728%2c748%2c622%2c692%2c156%2c694%2c142%2c449%2c628%2c228%2c853%2c233%2c293%2c636%2c634%2c662%2c453%2c922%2c456%2c248%2c469%2c642%2c724%2c199%2c646%2c652%2c732%2c366%2c656%2c336%2c463%2c738%2c537%2c742%2c536%2c429%2c369%2c433%2c925%2c343%2c916%2c927%2c443%2c299%2c917%2c544%2c474%2c754%2c698&t=67>

²⁰ <http://www.doingbusiness.org/data/exploretopics/protecting-investors>

court rules of evidence. The ranking on the strength of investor protection index is the simple average of the percentile rankings on its component indicators”.

Inflation, annual % change²¹ is by the International Monetary Fund (World Economic Outlook). “Annual percentages of average consumer prices are year-over-year changes”.

General Government Gross Debt, % GDP²² is from the International Monetary Fund (World Economic Outlook). “Gross debt consists of all liabilities that require payment or payments of interest and/or principal by the debtor to the creditor at a date or dates in the future. This includes debt liabilities in the form of SDRs, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, and other accounts payable. Thus, all liabilities in the GFSM 2001 system are debt, except for equity and investment fund shares and financial derivatives and employee stock options. Debt can be valued at current market, nominal or face values”.

Property Rights²³ are measured by the World Economic Forum. “How strong is the protection of property rights, including financial assets”?

Business Costs of Crime and Violence²⁴ is also by the World Economic Forum. “To what extent does the incidence of crime and violence impose costs on businesses”?

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<https://www.imf.org/external/pubs/ft/weo/2013/01/weodata/weoselser.aspx?c=612%2c672%2c614%2c193%2c548%2c912%2c678%2c419%2c682%2c273%2c514%2c948%2c218%2c616%2c688%2c223%2c518%2c516%2c728%2c748%2c622%2c692%2c156%2c694%2c142%2c449%2c628%2c228%2c853%2c233%2c293%2c636%2c634%2c662%2c453%2c922%2c456%2c248%2c469%2c642%2c724%2c199%2c646%2c652%2c732%2c366%2c656%2c336%2c463%2c738%2c537%2c742%2c536%2c429%2c369%2c433%2c925%2c343%2c916%2c927%2c443%2c299%2c917%2c544%2c474%2c754%2c698&t=67>

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<https://www.imf.org/external/pubs/ft/weo/2013/01/weodata/weoselser.aspx?c=612%2c672%2c614%2c193%2c548%2c912%2c678%2c419%2c682%2c273%2c514%2c948%2c218%2c616%2c688%2c223%2c518%2c516%2c728%2c748%2c622%2c692%2c156%2c694%2c142%2c449%2c628%2c228%2c853%2c233%2c293%2c636%2c634%2c662%2c453%2c922%2c456%2c248%2c469%2c642%2c724%2c199%2c646%2c652%2c732%2c366%2c656%2c336%2c463%2c738%2c537%2c742%2c536%2c429%2c369%2c433%2c925%2c343%2c916%2c927%2c443%2c299%2c917%2c544%2c474%2c754%2c698&t=67>

²³ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

²⁴ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

Organized Crime²⁵ is from the World Economic Forum. “To what extent does organized crime (mafia-oriented racketeering, extortion) impose costs on businesses”?

General Government Final Consumption Expenditure (% of GDP)²⁶ is by the World Bank. “General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation”.

Public Administration Outcomes

5.1.4 Health and Education

Mortality rate, infant (per 1,000 live births)²⁷ is reported by UNICEF. “Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year”.

Life Expectancy at birth, total (years)²⁸ is from the World Bank. “Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life”.

Health Expenditure, public (% of GDP)²⁹ is also from the World Bank. “Public health expenditure consists of recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds”.

²⁵ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

²⁶ <http://data.worldbank.org/indicator/NE.CON.GOV.T.ZS>

²⁷ <http://www.childmortality.org/>

²⁸ <http://data.worldbank.org/indicator/SP.DYN.LE00.IN/countries/1W?display=graph>

²⁹ <http://data.worldbank.org/indicator/SH.XPD.PUBL.ZS>

Primary education enrollment, net %³⁰ is by the UNESCO Institute for Statistics, The Asian Development Bank, Key Indicators for Asia and the Pacific 2012, The World Bank, EdStats Database. “The reported value corresponds to the ratio of children of official school age (as defined by the national education system) who are enrolled in school to the population of the corresponding official school age. Primary education (ISCED level 1) provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music”.

Literacy Rate, adult total (% of people 15 and above)³¹ is by the World Bank. “Adult (15+) literacy rate (%). Total is the percentage of the population age 15 and above who can, with understanding, read and write a short, simple statement on their everyday life. Generally, ‘literacy’ also encompasses ‘numeracy’, the ability to make simple arithmetic calculations. This indicator is calculated by dividing the number of literates aged 15 years and over by the corresponding age group population and multiplying the result by 100”.

Internet Access in Schools³² is by the World Economic Forum. “How widespread is Internet access in schools”?

Public Spending on Education, total (% of GDP)³³ comes from the World Bank. “Public expenditure on education as % of GDP is the total public expenditure (current and capital) on education expressed as a percentage of the Gross Domestic Product (GDP) in a given year. Public expenditure on education includes government spending on educational institutions (both public and private), education administration, and transfers/subsidies for private entities (students/households and other private entities)”.

³⁰ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

³¹ <http://data.worldbank.org/indicator/SE.ADT.LITR.ZS>

³² <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

³³ <http://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS>

Quality of the Educational System³⁴ is by the World Economic Forum. “How well does the educational system in your country meet the needs of a competitive economy”?

5.1.5 Innovation and Technology

Capacity for Innovation³⁵ is by the World Economic Forum. “To what extent do companies have the capacity to innovate”?

Quality of Scientific Research Institutions³⁶ is also by the World Economic Forum. “How would you assess the quality of scientific research institutions”?

Quality of Overall Infrastructure³⁷ is by the World Economic Forum. “How would you assess general infrastructure (e.g., transport, telephony, and energy) in your country”?

Technological Adoption³⁸ is by the World Economic Forum. This sub-parameter is calculated as the average of the following three parameters:

- “Availability of Latest Technologies. To what extent are the latest technologies available”?
- “Firm-level Technology Absorption. To what extent do businesses adopt new technology”?
- “FDI and Technology Transfer. To what extent does foreign direct investment (FDI) bring new technology into your country”?

³⁴ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

³⁵ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

³⁶ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

³⁷ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

³⁸ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

*Information and Communication Technology Use*³⁹ is by the World Economic Forum. This sub-parameter is calculated as the average of the following four parameters:

- “Individuals Using Internet. The term “internet users” refers to people using the Internet from any device (including mobile phones) in the last 12 months. Data are based on surveys generally carried out by national statistical offices or estimated based on the number of Internet subscriptions”.
- “Fixed Broadband Internet subscription/100 pop. This refers to total fixed (wired) broadband Internet subscriptions (that is, subscriptions to high-speed access to the public Internet—a TCP/IP connection—at downstream speeds equal to or greater than 256 kb/s)”.
- “International Internet Bandwidth. International Internet bandwidth is the sum of capacity of all Internet exchanges offering international bandwidth measured in kilobits per second (kb/s)”.
- “Mobile Broadband subscriptions/100 pop. Mobile broadband subscriptions refer to active SIM cards or, on CDMA networks, connections accessing the Internet at consistent broadband speeds of over 512 kb/s, including cellular technologies such as HSPA, EV-DO, and above. This includes connections being used in any type of device able to access mobile broadband networks, including smartphones, USB modems, mobile hotspots, and other mobile-broadband connected devices”.

*Personal Autonomy and Individual Rights*⁴⁰ comes from the Freedom House. “Do citizens enjoy freedom of travel or choice of residence, employment, or institution of higher education? Do citizens have the right to own property and establish private businesses? Is private business activity unduly influenced by government officials, the

³⁹ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

⁴⁰ <http://www.freedomhouse.org/report/freedom-world-2014/methodology#.U2r3tfmSyJG>

security forces, political parties/organizations, or organized crime? Are there personal social freedoms, including gender equality, choice of marriage partners, and size of family? Are there equality of opportunity and the absence of economic exploitation”?

*Pay and Productivity*⁴¹ is by the World Economic Forum. “To what extent is pay related to worker productivity”?

*Foreign Direct Investment, net inflows (% of GDP)*⁴² is from the World Bank. “Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy, other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP”.

5.2 Conversion of the Original Component Parameters into IPAE Parameters

IPAE’s scale is from 1 to 7. The 40 sub-parameters used as a basic unit for construction of the IPAE were mostly not measured on the same scale. In order to equalize those sub-parameters to the IPAE, we need to convert them representing exactly the same grade as in the original, only reflected on the scale 1 to 7. Some parameters had exactly the same grading system from 1 to 7 (22 parameters from Global Competitiveness Report), so there was no need of any change. Conversion was made on parameters that have different scale grading than the IPAE. There are two kinds of such parameters, as follows:

Static Parameters feature a grading system that is on a static scale “from-to,” where minimum and the maximum are fixed. Usually scales ranged from 0% to 100% (e.g., Rule

⁴¹ <http://www.weforum.org/issues/competitiveness-0/gci2012-data-platform/>

⁴² <http://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS>

of Law (percentile rank) as Measured by World Bank's Worldwide Governance Indicator), or featured a static grading system ranging from 0 to 16 or from 0 to 12; for example, the Freedom House Index's minimum of 0 was graded as a 1 on the IPAE scale, while its maximums of 12 or 16 were graded a 7 (e.g., Associational and Organizational Rights 0-12 scale, Freedom of Expression and Belief 0-16 scale). Static Parameters as follows:

- Associational and Organizational Rights 0-12 scale
- Freedom of Expression and Belief 0-16 scale
- Transparency International Corruption Index 0-100 scale
- Functioning of Government 0-12 scale
- Strength of Investor Protection 0-10 scale
- Personal Autonomy and Individual Rights 0-16 scale
- Rule of Law (percentile rank) as Measured by World Bank's Worldwide Governance Indicator 0% - 100% scale

Dynamic Parameters (Minimal and Maximal Extreme Parameter). There were several parameters which were graded differently. They were either Percentage Extreme Parameters, or different range Number Extreme Parameters, where the dynamic minimal value is graded as 1 on the IPAE scale, and dynamic maximal value as 7. However, this is true for the Straight Proportional Extreme Parameters, where the sample minimum and sample maximum are, respectively, the lowest and the highest parameter score. All of the Static Parameters are directly proportional. In some cases the opposite is true. Inversely Proportional Extreme Parameters where a higher value indicates a worse outcome (e.g., Mortality rate, Inflation rate, Government debt etc.) the conversion formula ensures that 1 and 7 still corresponds to the best and worst possible outcomes, just inverted. **It is important to state that the minimal and maximal values are determined from the whole world rankings in the reports respectively, not just from the Resource Economy countries.** The goal is for IPAE to become an International Index; it is created

to measure public administration all around the world, not just in a targeted group of countries. The Straight Proportional Extreme Parameters are as follows:

- Health Expenditure, public (% of GDP). World maximum: Tuvalu 15.41%. World minimum: Myanmar 0.42%
- Primary Education Enrollment (net %). World maximum: Singapore 100%. World minimum: Liberia 40.81%.
- Public Spending on Education (% of GDP). World maximum: Cuba 14.06%. World minimum: Myanmar 0.78%.
- Government Budget Balance (% of GDP). World maximum: Timor-Leste 50.19%. World minimum: Lesotho -10.46%.
- Foreign Direct Investment, net inflows (% of GDP). World maximum: Luxembourg: 50.52%.
- Literacy Rate (% of population). World maximum: Cuba 99.83%. World minimum: Guinea 25.3%.
- Life Expectancy at birth, years. World maximum: Hong-Kong 83.48. World minimum: Sierra Leone 45.32.

Inversely Proportional Extreme Parameters are listed below:

- Mortality rate, infant (per 1,000 live births). World minimum: Luxembourg 1.7. World maximum: Sierra Leone 117.4.
- General Government Debt (% of GDP). World minimum: Brunei 0%. World maximum: Japan 229.77%.
- Inflation, annual % change. World minimum: Bahrain 1%. World maximum: Venezuela 26.09%.
- General Government Final Consumption Expenditure (% of GDP). World minimum: Bangladesh 5.58%. World maximum: Lesotho 38.11%.

5.3 Conversion Formulas

There are two formulas for converting the necessary parameters. The first formula is to convert straight proportional parameters and the second one is used to convert the inversely proportional parameters.

Straight Proportional Parameter Formula

$$New\ Value = \left(\frac{\frac{Original\ Value - Parameter\ Min.}{Parameter\ Max. - Parameter\ Min.}}{\frac{Highest\ PAEC\ Grade - Lowest\ PAEC\ Grade}} \right) + Param.\ Min.$$

Where *New Value* is going to be the IPAE for specific country, the value we want to get as result from the conversion is a reflected original value on the IPAE scale from 1-7. *Original Value* is the value (number) we are converting. *Parameter Maximum* is the maximal value for that parameter (highest grade if it's a static parameter or world maximum if it is a dynamic parameter). *Parameter Minimum* is the minimal value for that parameter (lowest grade if it is a static parameter or world minimum if it is a dynamic parameter). *Highest IPAE Grade* is always constant 7. *Lowest IPAE Grade* is always constant 1.

Example 1:

Transparency International Corruption Index for Australia is converted below. This parameter is a directly proportional, static parameter on the scale 0-100. Our goal is to reflect it on IPAE scale 1-7. Australia has a score of 81 on the Transparency International Corruption Index.

Given data:

Original Value = 81

Parameter Minimum = 0

Parameter Maximum = 100

Highest IPAE Grade = 7

Lowest IPAE Grade = 1

$$New\ Value = \left(\frac{Original\ Value - Parameter\ Min.}{\frac{Parameter\ Max. - Parameter\ Min.}{Highest\ PAEC\ Grade - Lowest\ PAEC\ Grade}} \right) + Parameter\ Min.$$

$$NewValue = \left(\frac{81 - 0}{\frac{100 - 0}{7 - 1}} \right) + 1$$

$$New\ Value = \left(\frac{81}{\frac{100}{6}} \right) + 1 = 4.86 + 1 = 5.86$$

New Value = 5.86

This means that Australia's Transparency International Corruption Index of 81 on scale 0-100 corresponds on score of 5.86, reflected on IPAE's scale 1-7.

Example 2:

World Bank's Life Expectancy (years) indicator for Russia is converted below. This parameter is a directly proportional, dynamic parameter, where the maximal value is 83.48 years for Hong-Kong and minimal value is 45.32 years for Sierra Leone. Our goal is to reflect it on IPAE scale 1-7. Russia has value of 70.46 years in Life Expectancy.

Given data:

Original Value = 70.46

Parameter Minimum = 45.32

Parameter Maximum = 83.48

Highest IPAE Grade = 7

Lowest IPAE Grade = 1

$$New\ Value = \left(\frac{Original\ Value - Parameter\ Min.}{\frac{Parameter\ Max. - Parameter\ Min.}{Highest\ PAEC\ Grade - Lowest\ PAEC\ Grade}} \right) + Parameter\ Min.$$

$$New\ Value = \left(\frac{70.46 - 45.32}{\frac{83.48 - 45.32}{7 - 1}} \right) + 1$$

$$New\ Value = \left(\frac{25.14}{\frac{38.16}{6}} \right) + 1 = 3.95 + 1 = 4.95$$

New Value = 4.95

This means that Russia's Life Expectancy of 70.46 years on a scale of 45.32-83.48 (years) corresponds with score of 4.95 on IPAE's scale 1-7.

Inversely Proportional Parameter Formula

$$New\ Value = \left| \left(\frac{Original\ Value - Parameter\ Min.}{\frac{Parameter\ Max. - Parameter\ Min.}{Highest\ PAEC\ Grade - Lowest\ PAEC\ Grade}} \right) - Param.\ Max. \right|$$

Where *New Value* is going to be the IPAE for specific country, the value we want to find is a reflected original value on the IPAE scale 1-7. *Original Value* is the value (number) we are converting. *Parameter Maximum* is the maximal value for that parameter (highest grade if it is a static parameter or world maximum if it is a dynamic parameter). *Parameter Minimum* is the minimal value for that parameter (lowest grade if it's a static parameter or world minimum if it is a dynamic parameter). *Highest IPAE Grade* is always constant 7. *Lowest IPAE Grade* is always constant 1.

Example 3:

Here we convert UNICEF's Mortality rate, infant (per 1 000 live births) indicator for Mali. This parameter is an inversely proportional, dynamic parameter where the maximal value is 117.4 for Sierra Leone and minimal value is 1.7 for Luxembourg. Our goal is to reflect it on IPAE scale 1-7. Mali has score of 79.6 for Mortality rate, infant.

Given data:

Original Value = 79.6

Parameter Minimum = 1.7

Parameter Maximum = 117.4

Highest IPAE Grade = 7

Lowest IPAE Grade = 1

$$New\ Value = \left\lceil \left(\frac{Original\ Value - Parameter\ Min.}{Parameter\ Max. - Parameter\ Min.} \right) \times \frac{Highest\ PAEC\ Grade - Lowest\ PAEC\ Grade}{1} \right\rceil$$

$$NewValue = \left| \left(\frac{79.6 - 1.7}{\frac{117.4 - 1.7}{7 - 1}} \right) - 7 \right|$$

$$New Value = \left| \left(\frac{77.9}{\frac{115.7}{6}} \right) - 7 \right| = |4.04 - 7| = 2.96$$

New Value = **2.96**

This means that Mali's infant mortality rate of 79.6 (per 1 000 live births) on scale 1.7 - 117.4 has score of 2.96, reflected on IPAE's scale 1-7.

6. Conclusion

Today's modern public administrations are wide in scope because people today expect more services. Public administration plays a crucial role in the economic and social development of the country. It can be double edged sword. Public administration can be very costly, problematic and dangerous for a country with a weak or inefficient system, or very useful and progressive for countries with strong and efficient one. Every country that wants a modern public administration must differentiate comprehensive and efficient public administration from a large but inefficient one.

Countries with higher economic freedom have more efficient public administrations. In countries with more efficient public administration, real per capita income is higher and human development scores are higher, people live longer, there is more investment and more civil freedoms, state companies are driven efficiently and overall economic growth is sharper.

Government spending does not mean efficient public administration. Usually resource economies have big budgets because of the natural resources rents. Ruling elite

can easily extract these huge funds from the big budgets, with only a small portion making it to the people.

The quality of institutions determines whether natural resource abundance is a blessing or a curse. This is shown by various scientist and economists (Tornell and Lane, 1999), (Ross, 1999), (Auty, 2001, 2005), (Gylfason, 2001), (Esterly and Levin, 2002), (Torvik, 2002) and (Kaznacheev, 2013). Countries with more efficient public administration have larger real per capita income, and economic freedom is an important precondition factor for efficient and useful public administration. Future trends show that the scope of public administration is widening, and in many places it is beginning to overlap and cooperate with the private sector. The main factor for developing efficient and useful public administration is the political will of the elites in the country.

Today's sharp decrease in oil prices, stumbles oil dependent economies across the world, struggling to balance their budgets, sustain economic growth and to stabilize the national currency rates. As for now, countries with inefficient public administration, harder mitigate these negative effects.

Comparative analysis between public administration efficiency in resource economies and OECD shows that every OECD's IPAE is above the IPAE's average of the resource economies, which is very intriguing, on the other hand only 6 countries from resource economies are above the OECD's IPAE average. Average IPAE in resource economies is 3.911, where average IPAE in OECD countries is 4.955. This is difference in exactly 1.044 points (17.4%) which on scale from 1 to 7 is a lot. Biggest difference is in Institutional Strength. This shows that resource economies have weak institutions compared to OECD countries. Weak institutions are one of the main causes for low economic performance and low level of democracy in the society. Corruption, bribery, bureaucracy and misusing the institutions to protect personal interest are the main cause for weakening. Institutional strength explains why some countries are rich and some poor.

Government effectiveness is also poor in resource economies. Usually in under developed countries, governments are exposed on often changes or they are autocratic for long periods. In both ways that could be the cause for ineffectiveness. Political will emerges as key player in improving these 2 aspects of public administration. Health and Education; and Innovation and Technology are lagging behind in resource economies mostly as a side effect from the weak institutions and ineffective government. Macroeconomic Environment is the only parameter which is similar in resource economies and the OECD. This occurs as result of countries will to attract foreign investments through good macroeconomic environment, where in most cases can be masked through laws, regulations and taxation in favor of foreign investors.

Resource abundance seemingly is a blessing, but this is true only if you are aware of the potential risk that brings and if right policies are adopted. Establishing a sovereign wealth fund helps resource economies to mitigate the negative effects of the resource curse and Dutch disease. Purpose of the sovereign wealth funds: stabilization, saving and investment. Dutch disease puts the raw material sector (natural resources-primary sector) in first place, because of the windfall profits from the resource rents, making this sector more competitive and attractive than the other two (manufacturing and services), because of the wages and career opportunities. As a side effect causes workforce migration from the secondary and tertiary sector into primary, thus initiate imbalance in entire economy, weakening the institutions. Other negative effect caused by the resource rents are the huge revenues that inflows the economy, increasing the real exchange rate. Norwegian Paradox is the opposite of Dutch disease.

Sovereign wealth funds are managed by the governments. This means that public administration is in charge for the managing. Hence, how efficient is the public administration directly will reflect on the management efficiency over the sovereign wealth fund. Regression analyses has shown that more efficient public administration means higher sovereign fund wealth per capita.

Countries escape poverty only when they have strong and developed economic institutions, part of the efficient public administration. Countries are more likely to develop the strong institutions when they have a multiparty political system with real, democratic, internal struggle for the government. Too many sector and areas in the society are related and dependent from each other. Public administration is the glue which connects all these sectors and areas, making one part. If you have efficient public administration is very likely to achieve sustainable growth in almost every aspect of the society (economic, social, political etc.)

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