INDC

Foundations of National Security in Global Perspective - Dr. Anat Stern

Final Assignment

General:
Globalization influences the nature of national security.

Question:
1. It has been claimed that globalization threatens the status of the nation state. Choose a global phenomenon (you can select a phenomenon that was discussed in the course or a different one, according to your wishes). Present it and its connection to the foundations of national security and analyze the state's ability to deal with it in light of global transformations.

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INDC - Class 47 - Team 1

1. Introduction

During the 12th and 13th centuries a great crisis of the medieval universalism, namely the Papal and the Empire powers, started in Europe.

The power of the popes began to be eroded with the arrest of Bonifacio VII by the French king Philip in 1303 and continued with the Great Western Schism (1377-1417) that ended with the doctrine of "conciliarism" in which a council of all bishops eventually gained more authority that the Pope himself.

The erosion of the Empire arose with a degeneration of feudalism, and a number of Principates were formed, still formally obedient to the emperor but *de facto* more and more autonomous.

It is at this point that great national states like France, England and Spain emerge while in other areas, like the Italian peninsula, smaller regional states are born.

While the empire, as a centralized system for dealing with large portions of land breaks down, the national states show all their efficiency in managing the local resources reinvesting the benefits directly on the territories under their control. The nation states were characterized by the centrality of the ruler's power, supported by the growing bourgeois class, a strong bureaucratic apparatus, an efficient taxation/ fiscal system, and a professional army directly dependent from the ruler.

Nation states will eventually gain full moral/philosophical support to their existence in the course of the centuries, from the Peace of Westphalia, trough the eras of enlightenment, romanticism, and self-determination of peoples.

Finally, the dismantlement of the colonial empires following WWII gave birth to dozens of "new nations", not necessarily all democratic, increasing by a large factor

the number of players in the international arena. With the increase in numbers came an increased interconnection in political, social and industrial relations, a global interwoven financial system and, ultimately, a worldwide interdependency.

2. The nation states at the time of economic globalization

It would seam that the nation states are the ultimate answer to the questions of:

- self-determination of peoples;
- a successful self-sustainment concept;
- an effective self-protection model (national security) from internal/external threats.

This has been true, to a certain degree, while the level of interdependency between nations was somehow limited, effectively until the era of prosperity and commerce which exploded with the industrial revolution. Companies started to grow in size and their interests began to spread across nations first and continents later.

Today, there are more multi-national companies in the world than ever before, with their numbers steadily increasing. The first one was probably the British East India Trading Company, founded in 1600 but the real boost happened in the late 19th century. In 1900 there were 2.500 companies in the world operating in more than one country. In 1970 they were roughly 7.000 and in 2000 about 38.000. A recent figure of non-financial transnational corporations showed 82.000 in 2008[1].

In 2014 multi-nationals were estimated to produce 33% of all world production output and were responsible for more than half of world exports and 49% of imports.[2]

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[1] https://www.oecd.org/industry/ind/MNEs-in-the-global-economy-policy-note.pdf downloaded Dec 13 2019.

[2] See note 1.

These numbers more than anything else show how every modern nation (and its capacity to produce wealth) has become dependent from the others, regardless of the distribution of prime goods (even net exporters ultimately depend from the capability of other nations to import).

In parallel to the economic growth, access to cheap and reliable energy has become increasingly essential for the development and sustainment of national economies. Energy sources, today represented mainly by hydrocarbons (oil and natural gas) are unevenly distributed around the globe and their extraction, refinement, and transport have been, and still very much are, a continuous source of complex geo-political relationships and tensions among all nations.

Many states today recognize the dangers associated with reliance on foreign energy sources and vulnerable supply chains for both fuel and electricity, and now seek to promote secure, domestic sources of energy as a mean to increase national security.

3. Renewable Energy as a national security element

Powered by inexhaustible sources of domestic (and therefore independent) fuel, renewable energy can provide a vital contribution to a nation's security. Renewable energy generators do not rely on fuel supply chains that can be disrupted intentionally or by natural events and normally do not pose a risk of dangerous leaks or explosions that threaten human health and public safety. Renewable energy generation facilities can be constructed within a short timeframe and, by being dispersed throughout different regions, they are less vulnerable to acts of terrorism.

Finally, renewable energy generators, combined with advanced grid management technologies (smart grids), increase the reliability and resilience of the entire electrical grid during high-impact events. In cases where continuity of power supply is vital for national defense operations, renewable power can be coupled with modern energy storage technologies to form highly efficient self-sustaining micro-grids.

4. Renewable Energy as a resilient system

In general, threats to electricity supply can be divided into two broad categories: *natural events* (earthquake, flood and storm surge, hurricane, ice storm, tornado, tsunami, etc.) which are by far the most prevalent hazard[3], and *man made events* (physical attack, cyberattack, operation error).

The most pervasive forms of renewable energy generation, wind turbines and solar photovoltaic (PV) panels, especially when coupled with decentralized energy storage systems, have intrinsic characteristics that make them uniquely capable of withstanding many of the above threats, making them particularly valuable from a national security perspective:

- Independence from Global Fuel Supply. Renewable energy sources are not dependent on global marketplaces and transport systems that can be vulnerable to volatile price spikes or unexpected changes to fuel availability due to geo-political events.
- Virtually Inexhaustible Fuel**.** Renewable electricity relies on sources of fuel that are naturally occurring, free and self-replenishing such as sunlight, wind, the

[3] The Real Electricity Reliability Crisis, Rhodium Group (2017) - https://rhg.com/research/the-real-electricity- reliability-crisis-doe-nopr/.

earth's heat or the kinetic energy of a flowing river. While some of these fuel sources can vary temporally, they are normally steady over annual periods. Advanced modeling can accurately predict their availability. Storage systems and smart grid technologies can help flatten the supply/demand curves over time.

- Smaller, Decentralized Power Generation**.** Large centralized power facilities are an important national security vulnerability. Renewable energy can be economically deployed in much smaller units. Rooftop solar, for example, can be installed on homes and commercial buildings where it is either consumed or feeds back into the grid. Utility-scale wind and solar can be economically built in electrical capacities varying from one megawatt (MW) to over a gigawatt (GW).[4][5][6]

- Resources Available practically Everywhere. Almost every region of the world has the potential to harvest substantial wind and solar energy.

- Rapidly Deployable. Renewable energy can be built and deployed far more quickly than traditional fossil or nuclear generation. From initial siting and analysis to electricity production, large utility-scale wind or solar farms (over 250 MW) are typically constructed and brought online within one to three years.[7] Coal and nuclear generation, on the other hand, usually take many years to construct,

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[4] https://www.utilitydive.com/news/an-offer-utilities-cant-refuse-the-low-cost-of-utility-scale-solar/529373/ dated 9 Aug 2018

[5] https://www.resourcesmag.org/common-resources/what-are-costs-and-values-wind-and-solar-power-how-are-they-changing/ dated 10 Aug 2019

[6] https://www.forbes.com/sites/jamesellsmoor/2019/06/15/renewable-energy-is-now-the-cheapest-option-even-without-subsidies/#18af33775a6b dated 15 June 2019

[7] Development Timeline for Utility-Scale Solar Power Plant, Solar Energy Industries Association. https://www.seia.org/research-resources/development-timeline-utility-scale-solar-power-plant

sometimes more than a decade. A 500 kilowatt (kW) rooftop solar project with storage can be completed in just a few months.[8]

- Affordable. Renewable energy plus storage is already cheaper than building new conventional generation plant in some part of the world.[9] The exponential improvement in technologies (and its related continuous price drops coupled with increased efficiency) will eventually make the choice of renewables the only economically viable one.[10]

5. The new, energy independent, nation states

Nation states evolved, among other things, because of the paradigm that they would be able to provide better security to their citizens by becoming more independent from the other international actors.

It appears today that globalization, if it has not completely knocked down the original paradigm, it has, at the very least, extremely weakened its basic assumptions. The field of energy supply and its transport, with their relative markets, is probably one of the best examples of how the world is interconnected and interdependent. So, while globalization is definitely a threat to the status of the nation state (at least in the energy domain) renewable energies and their related smart grid technologies can allow for a new level of self-sufficiency by providing all nations, in all regions of the world, a future of cheap, resilient, independent, and virtually endless energy sources.

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[8] Taking the First Step: Understanding the Solar Timeline, Solect Energy. https://solect.com/taking-the-first-step- understanding-the-solar-timeline/

[9] https://info.fluenceenergy.com/hubfs/Collateral/White%20paper_TepperFluenceS+SasMid-Merit_final.pdf

[10] Renewables 2019 Global Status report - https://www.ren21.net/wp-content/uploads/2019/05/gsr_2019_full_report_en.pdf

Bibliography

1. J. Arbib, T. Seba, Rethinking Transportation 2020-2030, First Edition, Amazon Fulfilment, USA, 2017.
2. American Council on Renewable Energy, The Role of Renewable Energy in National Security, Issue Brief October 2018.
3. R. Cherif, F. Hasanov, A. Pande, IMF Working Paper - Riding the Energy Transition: Oil Beyond 2040, International Monetary Fund, 2017.
4. J. Bartlett, What Are the Costs and Values of Wind and Solar Power? How are they Changing?, available at https://www.resourcesmag.org/common-resources/what-are-costs-and-values-wind-and-solar-power-how-are-they-changing/
5. J. Ellsmoor, Renewable Energy is Now the Cheapest Option. Even Without Subsidies, available at https://www.forbes.com/sites/jamesellsmoor/2019/06/15/renewable-energy-is-now-the-cheapest-option-even-without-subsidies/#18af33775a6b
6. B. Unel, A. Zevin, Toward resilience, Defining, Measuring, and Monetizing Resilience in the Electricity System, Institute for Policy Integrity, NYU School of Law, available at https://policyintegrity.org/files/publications/Toward_Resilience.pdf