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# INTERNATIONAL RELATIONS AND OBSERVABLE DIMENSIONS OF POWER: AN ASSESSMENT FROM A REALIST PERSPECTIVE

# ULUSLARARASI İLİŞKİLER VE GÜCÜN GÖZLEMLENEBİLİR BOYUTLARI: REALİST PERSPEKTİFTEN BİR DEĞERLENDİRME

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#### ABSTRACT

Economic, technological and military factors affect international relations dynamics in many respects. Developments such as the end of the Cold War, globalization, Revolution in Military Affairs (RMA) and technological advances increased the interaction of these factors and the complexity of international relations.

Defining one of the most controversial concepts in international relations, power, was also affected from this process. The power concept, which has been defined from different perspectives by schools of thought such as realism, liberalism and constructivism, became more complicated. In this study, observable dimensions of power (economic, technological and military dimensions) were focused on. Channels through which economic, technological and military factors affect international relations were investigated.

**Key Words:** International relations, power, economy, technology, military capabilities

ÖZ

Ekonomik, teknolojik ve askeri faktörler, uluslararası ilişkiler dinamiklerini birçok yönden etkilemektedirler. Soğuk Savaş'ın sona ermesi, küreselleşme, Askeri Alanda Devrim ve teknolojik ilerlemeler gibi gelişmeler, bu faktörlerin birbirleriyle olan etkileşimini ve uluslararası ilişkilerin karmaşıklığını arttırmışlardır.

Uluslararası ilişkilerin en tartışmalı kavramlarından birisi olan gücün tanımlanması da bu süreçten etkilenmiştir. Realizm, liberalizm ve konstrüktivizm gibi düşünce okullarının farklı perspektiflerden tanımladığı güç kavramı, anlaşılması daha da güç hale gelmiştir. Bu çalışmada, gücün gözlemlenebilir boyutlarına (ekonomik, teknolojik ve askeri boyutlarına) odaklanılmıştır. Ekonomik, teknolojik ve askeri faktörlerin, uluslararası ilişkileri hangi kanallardan etkilediği araştırılmıştır.

Anahtar Kelimeler: Uluslararası ilişkiler, güç, ekonomi, teknoloji, askeri yetenekler

### INTRODUCTION

Various economic, technological and military factors affect international relations. Dynamics such as the end of the Cold War, globalization, the Revolution in Military Affairs (RMA) and technological developments intensified the interaction of these factors and increased the complexity of international relations.

One of the most controversial issues of international relations, defining the concept of power, was also affected from this process and became much more complicated. Different schools of thought attempted to define the power concept from different perspectives. Nonetheless, it can be said that efforts to make a universal definition of power that is valid for all times, places and issues were not successful. (Ozdemir, 2008:135)

Realist scholars emphasize military and economic factors, nonetheless they also take into account qualitative factors such as diplomacy, governance and national character. They focus on states' capability to change other states' behavior. Neo-realists emphasize the international system rather than the actors. They define power as the combined capability of a state within the systemic restrictions. (Waltz, 1990: 35)

Liberal scholars do not disregard the military dimension of power; nonetheless they emphasize importance of interdependence, common rules, values, norms and international institutions. Neoliberal scholars make the distinction between soft and hard power in an environment of complex mutual interdependence. (Nye, 1990: 166) Different from realists, who emphasize hard power; they emphasize soft power. They focus on methods such as issue linkage, agenda setting, using international connections and organizations in an environment of complex mutual interdependence. (Keohane and Nye, 2001) They argue that hard power is used to shape other actors' behavior while soft power is used to shape other actors' perceptions, wants and preferences that shape their behavior. Constructivists argue that main factors that shape states' behavior are ideas and interests. Different from realists, who identify interests with material power, constructivists identify interests with ideas and perceptions.

Lukes (1974) classifies studies on power in three categories. Studies in the first category, particularly the realist studies, define power within context of states' efforts to change each others' behavior by using observable methods, practices and means. Studies in the second category, which include the liberal and neo-liberal studies, define power within context of states' efforts to determine and control the agenda and the issues by creating a suitable system and an institutional framework. Creating this system and the framework, which includes predominant values, political norms, beliefs and processes, is defined as prejudices mobilization. (Bachrach and Baratz, 1962: 952) Studies in the third category, which include constructivist and neo-liberal studies, define the concept of power within context of states' effort to shape each others' perceptions and preferences.

In this study, observable dimensions of power (economic, technological and military dimensions) will be focused on. Aim of this paper is to determine channels of interaction among international relations and economic, technological and military factors. In the second section, interaction among international relations, economy and international financial system will be investigated. In the third section, interaction among international relations, defense industry and military capabilities will be examined. In the fourth section, interaction among international relations and scientific and technological factors will be analyzed.

## INTERNATIONAL RELATIONS, ECONOMY AND THE INTERNATIONAL FINANCIAL SYSTEM

Economic factors and the international financial system affect international relations dynamics though many channels. Impact of the economic factors and the international financial system on international politics stems from the interdependency of political, military, economic and financial power. This interdependency was investigated by prominent scholars such as Kennedy (1990), who argued that there is a close relationship between economic, military and political dimensions of national power.

One of the most important channels between international relations dynamics and economic factors is the international financial architecture, which determines the rules of the game in the international economy. The Bretton Woods System, which was established after the II. World War, symbolizes the influence of international financial architecture on world politics. The U.S., which came out of the II. World War as the country with the strongest economy, used its influence on the Bretton Woods Conferences in 1944 and led the international community to establish an international monetary system that depends on gold and the U.S. dollar. (Seyidoğlu, 2003) This system made the U.S. dollar the international reserve money and gave the U.S. the seigniorage power, which it still benefits in the 21st century. U.S. may have entered a systemic crisis if the dollar was not the international reserve money and if the U.S. could not inject huge amounts of liquidity into the financial system after the collapse of many banks and financial institutions in 2008.

Bretton Woods System called for the establishment of International Monetary Fund (IMF) and World Bank. U.S. has vast amount of control on decision-taking mechanisms of these institutions. U.S. has actually de facto veto power on IMF. It is argued that the U.S. has been using these institutions as foreign policy tools and economic and particularly financial issues have increasingly featured in defense and diplomatic planning in recent years. (Kleiman, 2008: 46)

Another channel of interaction between economic factors and international relations is international capital movements. Fast development of international capital markets, acceleration of international capital movements by the help of technological developments and financial liberalization reforms enhanced international capital movements' potential to trigger financial crises. Developing and developed countries experienced financial crises, which resulted in economic contractions reaching 15 percent of their GDPs. (Altıntas, 2004: 59) These financial crises altered these countries' comparative economic and national strengths and changed the balance of power in the international system.

Emerging countries experienced financial instabilities and crises in 1990s and 2000s. Turkey in 1994, 2000 and 2001, Mexico in 1994-95, Argentina in 1995, East Asian countries including Indonesia, South Korea, Thailand, Malaysia, and Philippines in 1997, Russia in 1998 and Brazil in 1999 experienced serious financial instabilities and crises, which quickly spread to the real sector and led to significant economic contractions. The Euro region experienced the Exchange Rate Mechanism crisis in 1992-93. The Japanese economy, the second largest economy in the world, experienced a serious financial crisis, which slowed down its economic growth substantially in the 1990s. As a result, Japan's economic and political power declined relatively since other developed countries' economic growth rate was higher than the growth rate of Japan. For example, China's average economic growth rate was above 10 percent in the 1990s.

Financial crisis that started in 2008 in the U.S. is the last and the largest of these crises. It symbolizes the increasing influence of international financial system on international politics. Koo (2008) argues that although the U.S. has not experienced a "lost decade" yet, many indicators are worse than what Japan faced fifteen years ago. It is argued that if the financial crisis deepens and the U.S. enters into recession that lasts for years similar to Japan, this will lead to the decline of the U.S.'s economic power. Because of the interdependence among economic, military and political power, it is expected that decline of the U.S.'s economic power will change equilibriums in the international balance of power. It is argued that the global financial meltdown is the last big throw of a declining American hegemony. (Nesvetailova and Palan, 2008) Altman (2009) argues that the financial and economic crash of 2008 is a major geopolitical setback for the United States. The global crisis could also have an impact on U.S. foreign-policy decisions because of possible instabilities in other countries. (Hosenball and Hirsh, 2009) All these developments may alter the balance of power in the international system.

Financial crisis may also lead to the restructuring of the international financial system, which may also lead to the decline of the U.S. influence on the international system. If financial crisis deepens, international financial architecture may be restructured. The international reserve money status of dollar may be tested.

A new system, Bretton Woods 2, may be established and developing countries, which have 5,2 trillion dollar reserves (Setser, 2008: 18), may gain more control on the decisiontaking mechanisms of the IMF and World Bank. It is argued that economic diplomacy has already engaged a far larger range of countries including new rising powers like China, India and Brazil. (Bayne, 2008) Developing countries' influence on the international financial and political system may increase by the help of sovereign wealth funds (SWFS), which according to Morgan Stanley estimates, will hold a total of \$12 trillion by 2015. (Mattoo and Subramanian, 2009)

Economic factors also affect international balance of power through other channels. Economic power provides financial resources for military expenditures, diplomacy and intelligence and helps nations to increase their influence in the international system. Economic power also provides financial resources to increase R&D expenditures and accelerate scientific and technological development. This has become more significant since, in recent decades, scientific and technological capabilities' contribution to military capabilities increased substantially through dual-use technologies and civil-military integration.

Civil-military integration accelerates military and technological development via various spin-off and spin-on mechanisms. (Bitzinger, 2004) Use of dual-use technologies, which are defined as commercial technologies that can be used to produce advanced weapon systems such as microelectronics, computers, telecommunications equipment, nuclear power, biotechnology, chemicals, aviation and space, (Cliff, 2001:1) accelerates military modernization by creating financial advantages, saving time, and clearing uncertainties. In particular, developments in the telecommunications sector have been effective in the development of new C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) capabilities. (Bitzinger, 2004)

Globalization is another channel through which economy affects international relations dynamics. It is expected that developments in information and communication technologies will accelerate globalization by facilitating distribution of all kinds of information. Ascending Asian powers may start to shape globalization by spreading their culture and values by the help of their increasing economic, technological and political power.

According to some scholars, globalization, through the mechanism of increasing mobility of capital and goods, will change the international system fundamentally.(Garrett, 2002) It is argued that, even if foreign trade/GDP ratio of many developed countries are still low, mobility of goods increased the interdependence of countries and mobility of capital interconnected economies so much that effects of the economic crises in Asia and Russia went beyond the national borders of these countries and affected the global economy. (Garrett, 2002) Global financial crisis, which started in the U.S. and spread quickly to other countries in 2008, supports this argument.

# INTERNATIONAL RELATIONS, DEFENSE INDUSTRY AND MILITARY **CAPABILITIES**

Global defense industrial order is a good indicator of balance of power in the international system because of the interdependence of political power, national power, military power, defense industry and military technology. (Neuman, 2006)

Especially after the Revolution in Military Affairs (RMA), which transformed the nature of military affairs, significance of defense industry for international relations increased. Global defense industry market is today at the crossroads of global economy, international politics, science, technology and military capabilities. Technical progress, the emergence of new threats, economic and political factors determines its future market environment. (Hartley and Sandler, 2003: 361-380)

Defense industry is different from other industries. Its character and operations pose technological, economic, political and security problems. (Markusen, 1999) Defense industry's character is an outcome of interdependence of political power, national power, military power, defense industry and military technology. Different schools of thoughts evaluate these notions from different perspectives. For the realist school of thought, these are core concepts.

According to Gilpin, great power domination depends on military technology and military power. Transfer of military technology and power can trigger war and can change balance of power in world politics. (Gilpin, 1981: 182) Jervis points out to the importance of defensive and offensive military technology in affecting the incentives of war. (Jervis, 2002: 1-14) Walt argues that technological change, especially the military technology change can alter the international balance of power by affecting the comparative military and national power. (Waltz, 1979)

Theoretical arguments are supported by nations' efforts to advance their military technology. States try to protect their national security by increasing their relative national power by pursuing programs that will help them to develop the most advanced weapon systems.

Military power is a combination of various elements including the naval, army, air force and strategic assets and other elements, which are defined as force multipliers such as C4ISR capabilities, information, electronic and psychological warfare, digitization of the battlefield, networked systems, joint operations capability, logistics and military personnel quality. (Mulvenon and Yang, 2003: 1)

Nonetheless, to have some of these military assets and capabilities mentioned above does not necessarily mean that a nation is militarily powerful. Countries with advanced weapon systems may not be influential in world politics as much as it would be expected since they are dependent on other countries militarily. As can be seen from Table 1 below, countries that have advanced weapon systems such as Japan are highly dependent on other nations with regards to advanced weapon systems. Japan's ratio of arms imports as percent of arms exports is 15000.

**Table 1.** Arms Imports as % of Arms Exports

Country	Arms Imports as % of Arms Exports
USA	4,8
United Kingdom	50,0
France	27,6
Japan	15000,0
Germany	68,4
Russia	15,6
Italy	184,2
South Korea	1100,0
Israel	400,0
China	210,9
India	7000,0
Sweden	34,07
Taiwan	13000,0
North Korea	21,4

Source: Neuman, S. G. (2006). "Defense Industries and Global Dependency", Orbis, 50 (3), 429-451.

The fact that the only nation that has an "arms imports as percent of arms exports" ratio below ten is the U.S. and the fact that there are only six nations that have a ratio smaller than 100 support the argument that the U.S. is the preponderant nation in the global defense industrial order. (Neuman, 2006: 429-451)

Especially after the revolution in military affairs (RMA), which transformed the nature of military affairs and generated "a brand-new form of war, non-contact war" (Hudson Institute, 2005: 46), significance of military technology, military power and defense industry with regards to the international relations increased. Taylor (2005) argues that, "technological innovation is of central importance to the study of international relations, affecting almost every aspect of the sub-field."

The Gulf War clearly demonstrated the significance of military power with respect to international relations. Pioneer of the RMA, the U.S. increased its effectiveness in the international system after its superiority in the military arena was seen. Other countries had to modify their defense policies after recognizing the importance of RMA.

U.S.'s military superiority is a result of heavy investment in defense industries since the end of the Cold War. U.S.'s military R&D and military expenditures have been more than the total military R&D and military expenditures of the fallowing ten nations including Japan, Germany, Russia, Canada, Italy, France, the U.K. and China.

**Table 2.** Military Expenditures, 2007 (in millions of USD)

Country	Military Expenditures
China	58.265
France	53.579
Germany	36.929
India	24.249
Israel	12.233
Italy	33.086
Japan	43.557
Korea, South	22.623
Russia	35.369
Saudi Arabia	33.793
United Kingdom	59.705
United States	546.786

Source: SPRI. (2008). SPRI Yearbook 2008, London: Oxford University Press.

These investments increased the technological gap between the U.S. defense industry and defense industries of other developed countries at such an extent that the global defense industrial order, just like the international political order, became unipolar. (Escude, 1998: 55-75) U.S. defense industry is now able to affect the domestic production capabilities of defense industries of other countries. (Neuman, 2005) Even the most developed countries' defense industries became dependent on the U.S. with regards to the advanced technologies and market demand. This gave the U.S. leverage to put pressure on other countries politically, which significantly contributed the creation of an unipolar international system.

The U.S. is the dominant nation in the global defense industry market today. U.S.'s dominance is reflected in the ranking of the biggest defense companies in the world as can be seen from Table 3. It is noticeable that all of the leading defense companies are U.S. and Western European companies.

**Table 3.** 20 Largest Arms Producing Companies, 2007 (Billions \$)

	Company	Country/Region	Defense Revenue
1	Lockheed Martin	US	38.513
2	Boeing	US	32.080
3	BAE Systems	UK	29.800
4	Northrop Grumman	US	24.597
5	General Dynamics	US	21.520
6	Raytheon	US	19.800
7	EADS	Europe	12.239
8	L-3 Communications	US	11.239
9	Finmeccanica	Italy	10.601
10	United Technologies	US	8.761
11	Thales	France	7.246
12	SAIC	US	6.511
13	KBR	US	5.967
14	Honeywell	US	5.000
15	General Electric	US	4.500

Source: Defense News. (2008).

 $<sup>&</sup>lt; http://www.defensenews.com/static/features/top100/charts/top100\_08.php?c = FEA\&s = T1C > (3.11.2008)$ 

The ranking and the distribution of the defense companies indicate that the U.S. is the leading and dominant nation in global defense industrial order. Another indicator that the U.S. is the dominant nation in global defense industrial order is arms sales as can be seen from Table 4 below. In the words of Battilega (2005):

"The United States has the largest homogenous internal defense market in the world. It owns over half of the global arms export market, with total sales larger than the aggregate sum of the next five countries. It has the strongest commercial information technology sector, the strongest university science base, and the most commercial experience in the global economy."

**Table 4.** Arms Sales, 2006 (in billions of US dollars)

Country	Arms Sales (billions dollars)
United States	200,2
U.K.	37,3
France	19,5
Italy	11
China	7,6
Germany	6,1
Russia	6,1
Japan	5,2
Israel	4,6
India	3,5

Source: SPRI. (2008). SPRI Yearbook 2008, London: Oxford University Press.

## INTERNATIONAL RELATIONS, SCIENCE AND TECHNOLOGY

Scientific and technological developments affect international relations dynamics particularly by enhancing economic competitiveness and military capabilities. Scientific and technological developments were among the key parameters in the transformation process of manufacturing economies into information economies. They increase productiveness, raise competitiveness in global markets and enhance economic and national power.

Scientific and technological capabilities are and will also be essential to modernize military capabilities. According to defense industry experts, "in all previous periods of significant change in military technology there was an accompanying transformation of global defense markets and industries." (Battilega, 2005) In the beginning of the 21<sup>st</sup> century, revolutionary developments in information technologies and miniaturization are transforming the military technology and the nature of warfare.

It is argued that countries, which own the militarily significant and critical technologies, will be more competitive in defense industries and markets. (Hartley and Snadler, 2003: 361-380) These countries will be more effective on the dynamics of the international system because of the arms importing states' increasing dependence on foreign arms suppliers. Nations that have the most competitive private sectors, especially the technology-intensive and militarily critical ones, will be more competitive in the defense industries and will be more effective on the future of the international system.

It is expected that scientific and technological development will affect the international relations dynamics more and more because of the transforming nature of warfare and the increasing interdependence among scientific, technological, and military capabilities especially after the revolution in military affairs (RMA). (Atta and Lippitz, 2003)

As mentioned before, the pioneer of the RMA, the U.S. increased its influence in the international system. Recognizing the increasing importance of RMA, China, which is seen as the potential superpower, has taken many steps. In 2006, the Commission of Science, Technology and Industry for National Defense accepted the outline of the development program of science and technology for national defense for the 2006-2020 period. The outline emphasizes creation of a mechanized and information-based army by the help of high and new tech weaponry development. According to the development program of science and technology, new and high-technologies for the space industry, aviation, ship and marine engineering, nuclear energy and fuel, and information technology will be developed and industrialized in the coming 15 years for both military and civilian use. (Xinhua, 2006)

It is generally accepted that space capabilities, which significantly depend on scientific and technological capabilities, will be essential to have superiority in the future warfare since it will be critical to collect, analyze, and disseminate all kinds of information rapidly. According to U.S. national space policy authorized by the President in 2006, U.S.'s national security is critically dependent upon space capabilities, and this dependence will grow. (U.S. Office of Science and Technology Policy, 2006) U.S. space policy asserts that to develop and deploy space capabilities that sustain U.S. advantage and support defense intelligence and intelligence transformation; the capabilities to execute the space support, force enhancement, and space control should be maintained; space capabilities to support continuous, global strategic and tactical warning as well as multi-layered and integrated missile defenses must be provided; and freedom of action in space must be ensured, and, if needed, such freedom of action to adversaries should be denied.

Outer space is already militarized and the U.S. is the country that exploits the space militarily most. The U.S. makes most of global military space spending. U.S. military uses satellites for intelligence, communication, navigation, precision munitions guidance, mapping, charting; for imaging the United States, its territories and possessions, and for conducting network-centric warfare through remote command centers. (FAS, 2004)

China launched its first manned spacecraft into Earth orbit in 2003. According to reports, China illuminated a US satellite with laser technology in 2006 (Ferster and Clark, 2006) and destroyed an orbiting weather satellite with a missile in 2007 (Panda, 2007), which made it the third country that could destroy something in space. The direct-ascent ASAT is seen as part of a Chinese program that includes ground-based lasers and jamming of satellite signals.

According to the U.S. Department of Defense report (2008), China is developing field radar, ocean surveillance, high-resolution photoreconnaissance satellites and is expected to deploy advanced imagery, reconnaissance, and Earth resource systems with military applications.

As can be seen, interactions among economic, technological and military dimensions of power have increased seriously in recent decades. Strong correlations among economic, scientific, technological and military indicators of power, as can be seen at Table 5 and 6, support this argument. GDP (PPP) is strongly correlated with scientific and technological indicators such as R&D expenditures, S&E articles, citation of S&E articles, Researchers in R&D and patent applications. GDP (PPP) is also strongly correlated with military indicators such as military expenditures and military R&D expenditures. Scientific and technological indicators are also strongly correlated with military indicators, particularly with military R&D.

Table 5: Economic, Scientific, Technological and Military Indicators (2007)

	China	U.S.A.	Russia	U.K.
GDP (PPP) (Billions\$)	7.099	13.780	2.097	2.130
R&D Expenditures (PPP) (Billion \$)	86,8	343,8	20,2	35,6
S&E articles	41.596	205.320	14.412	45.572
Citation of S&E articles	65.326	1.839.481	32.176	351.572
Researchers in R&D	1.223.756	1.387.882	464.357	183.535
Patent applications filed	5.456	52.280	507	5.553
MilitaryExpenditures (Billions \$)	58,3	547	35,4	59,7
Military R&D Expenditures(Billion\$)	5,0	54,1	4,0	3,4
Number of Nuclear Weapons	200	10.104	16.000	200
Military Manpower (1000s)	2.255	1.438	1.037	196

#### Sources:

CIA. (2008). The World Factbook 2008, Washington, DC: CIA.

National Science Board. (2008). Science and Engineering Indicators 2008, Arlington, VA: National Science Foundation.

Norris, R. S., Kristensen, H. M. (2008). "Global Nuclear Stockpiles, 1945-2006," Bulletin of the Atomic Scientists, 62 (4), 64-67.

OECD. (2008). Main Science and Technology Indicators, Paris: OECD.

SPRI. (2008). SPRI Yearbook 2008, London: Oxford University Press.

World Intellectual Property Organization (WIPO). (2008, February 21). "Unprecedented Number of International Patent Filings in 2007,"

<a href="http://www.wipo.int/pressroom/en/articles/2008/article">http://www.wipo.int/pressroom/en/articles/2008/article</a> 0006.html > (10.8.2008).

**Table 6:** Economic, Scientific, Technological and Military Indicators (2007)

Tuble of Economic, Science	Germany	India	Japan	
	France	Germany	mara	vapan
GDP (PPP) (Billions\$)	2.075	2.807	2.966	4.272
R&D Expenditures	41,4	66,7	19,44	138,8
(PPP)(Billion \$)				
S&E articles	30.309	44.145	14.608	55.471
G: .:	201.041	205.555	21.524	210.665
Citation of S&E articles	201.941	305.555	31.534	318.665
Researchers in R&D	204.484	282.062	117.528	709.691
Patent applications filed	6.370	18.134	686	27.731
MilitaryExpenditures	53,6	36,9	24,2	43,6
(Billions \$)				
Military R&D	3,5	1,0	1,5	1,0
Expenditures(Billion\$)				
Number of Nuclear Weapons	350	0	60	0
Military Manpower (1000s)	259	284	1.325	238

Sources:

CIA. (2008). The World Factbook 2008, Washington, DC: CIA.

National Science Board. (2008). Science and Engineering Indicators 2008, Arlington, VA: National Science Foundation.

Norris, R. S., Kristensen, H. M. (2008). "Global Nuclear Stockpiles, 1945-2006," *Bulletin of the Atomic Scientists*, 62 (4), 64-67.

OECD. (2008). Main Science and Technology Indicators, Paris: OECD.

SPRI. (2008). SPRI Yearbook 2008, London: Oxford University Press.

World Intellectual Property Organization (WIPO). (2008, February 21). "Unprecedented Number of International Patent Filings in 2007,"

### **CONCLUSION**

Power is one of the most important and controversial concepts in international relations. Different schools of thought define this concept from different perspectives. In this study, economic, technological and military dimensions of power were focused on. Interactions among international relations and economic, technological and military factors were investigated. It was found that they have been intensifying substantially in recent decades.

For example, financial liberalization reforms, fast development of international capital markets and acceleration of international capital movements increased the influence of international economic and financial system on international politics. International capital movements dragged many developing and developed countries into financial crises and

<sup>&</sup>lt;a href="http://www.wipo.int/pressroom/en/articles/2008/article\_0006.html">http://www.wipo.int/pressroom/en/articles/2008/article\_0006.html</a> (10.8.2008).

decreased their comparative economic strength, which was quickly reflected to other dimensions of national power.

International monetary system is another channel of interaction between international economy and international relations. Dollar's international reserve money status and control of the U.S. in the decision-taking mechanisms of IMF and World Bank increase U.S.'s influence in international relations. In this connection, the global financial crisis that started in the U.S. in 2008 may have serious consequences with regards to international balance of power. If U.S.'s recession deepens, international monetary and financial system may be restructured in a way that diminishes U.S.'s influence in international economy and politics. Dollar's international reserve money status may be tested. U.S.'s control on the decisiontaking mechanisms of IMF and World Bank may diminish.

Economic affects international politics in other respects. Economic power is one of the core components of national power that supports developments in other dimensions of power such as military, diplomacy and intelligence. Economically powerful countries can also increase their R&D expenditures and accelerate their scientific and technological development. Because of civil-military integration and dual-use technologies, scientific and technological development helps the development of defense industry qualitatively and quantitatively.

Defense industry and military capabilities affect the international system dynamics substantially because of the interdependence among political power, national power, military power, defense industry and military technology. Especially after the revolution in military affairs (RMA), significance of military power and defense industry with regards to the international relations increased.

Scientific and technological developments have been affecting international relations dynamics by increasing economic productiveness, efficiency, competitiveness and power. Scientific and technological developments have also been affecting the international relations dynamics more and more in recent decades because of the transforming nature of warfare and the increasing interdependence among scientific, technological, and the military capabilities especially after the revolution in military affairs (RMA).

It is expected that nations that own the militarily significant and critical technologies will be able to modernize their military capabilities and will have the superiority in the future warfare. It is also forecasted that nations, which are more competitive in defense industries, will be more effective on the dynamics of the international system because of arms importing states' increasing dependence on foreign arms suppliers.

In sum, developments such as acceleration of international capital movements, globalization, the RMA and technological advances made the definition of power concept more complicated and enhanced the interaction among international relations, economy, international financial system and defense industry.

### REFERENCES

- Altıntaş, H. (2004). "Bankacılık Krizleri, Nedenleri ve Ekonomik Maliyetleri", Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 22 (1), 39-61.
- Altman, R.C. (2009). "The Great Crash, 2008: A Geopolitical Setback for the West", Foreign Affairs, 88 (1), 2-15.
- Atta, R. H.V., Lippitz, M. J. (2003). Transformation and Transition: Darpa's Role in Fostering an Emerging Revolution in Military Affairs, Alexandria: Institute for Defense Analyses.
- Bachrach, P., Baratz, M. (1962). "Two Faces of Power," American Political Science Review, 56 (4), 947-952.
- Battilega J. (2005). Transformations in Global Defense Markets and Industries: Implications for the Future of Warfare, Washington, DC: National Intelligence Council.
- Bayne, N. (2008). "Financial Diplomacy and the Credit Crunch: The Rise of Central Banks", Journal of International Affairs, 62 (1), 1-16.
- Bitzinger, R. A. (2004). Civil-Military Integration and Chinese Military Modernization, Asia-Pacific Center for Security Studies Series. Honolulu, Hawaii: APCSS.
- CIA. (2008). The World Factbook 2008, Washington, DC: CIA.
- Cliff, R. (2001) The Military Potential of China's Commercial Technology, Santa Monica, CA: RAND.
- Escude, C. (1998). "An Introduction to Peripheral Realism and its Implications fort he Interstate System: Argentina and the Condor II Missile Project", in S. G. Neuman (ed.) International Relations Theory and the Third World, New York: St. Martin's Pres, 55-75.
- Federation of American Scientists (FAS). (2004). Ensuring America's Space Security: Report of the FAS Panel on Weapons in Space, Washington: FAS.
- Ferster, W., Clark, C. (2006, October 2). "NRO Confirms Chinese Laser Test Illuminates U.S. Spacecraft", Defense News.
- Garrett, G. (2002). "Global Markets and National Politics: Collision Course or Virtous Circle" in Katzenstein, Peter J., Keohane, Robert O., Krasner, Stephen D., Exploration and Contestation in the Study of World Politics, Cambridge, Massachusetts and London: The MIT Press.

- Gilpin, R. (1981). War and Change in World Politics, Cambridge: Cambridge University Pres.
- Hartley, K, Sandler, T. (2003). "The Future of the Defense Firm", Kyklos, 56 (3), 361-380.
- Hosenball, M., Hirsh, M. (2009, March 9). "There's a world of trouble out there; the CIA faces a threat it's never been great at analyzing: the fallout from global recession", Newsweek, 153 (10).
- Hudson Institute. (2005). China's New Great Leap Forward: High Technology and Military Power in the Next Half-Century, Indiana: Hudson Institute.
- Jervis, R. (2002). "Theories of War in an Era of Leading-Power Peace", American Political Science Review, 96 (1), 1-14.
- Kennedy, P. (1990). Büyük Güçlerin Yükseliş ve Çöküşleri, Ankara: Türkiye İş Bankası Kültür Yavınları.
- Keohane, R., Nye, J. (2001). Power and Interdependence, New York: Longman.
- Kleiman, G. N. (2008). "Dollars and Diplomacy", The International Economy. 22 (4), 46-48.
- Koo, R. C. (2008). "Lessons from Japan's Lost Decade", The International Economy, 22 (4), 69-73.
- Lukes, S. (1974). Power: A Radical View, London: MacMillan Press in Ozdemir, Haluk. (2008), "Uluslararası İlişkilerde Güç: Çok Boyutlu Bir Değerlendirme", Ankara *Üniversitesi SBF Dergisi*, 63(3), p. 119.
- Markusen, A. (1999). Should We Welcome a Transnational Defense Industry?. American Economic Association/Peace Science sessions, New York.
- Mattoo, A., Subramanian, A. (2009). "From Doha to the next Bretton Woods: A New Multilateral Trade Agenda", Foreign Affairs, 88 (1), 15-27.
- Mulvenon, J., Yang, R. H. (2003). The People's Liberation Army in the Information Age, Santa Monica: RAND.
- National Science Board. (2008). Science and Engineering Indicators 2008, Arlington, VA: National Science Foundation.
- Nesvetailova, A., Palan, R. (2008). "A Very North Atlantic Credit Crunch: Geopolitical Implications of the Global Liquidity Crisis", Journal of International Affairs, 62 (1), 165-185.
- Neuman, S. (2005). Defense Industries and Dependency: Current and Future Trends in the Global Defense Sector. Conference on Israel's Strategic Agenda, BESA Center, Bar Ilan University.
- Neuman, S. (2006). "Defense Industries and Global Dependency", Orbis, 50 (3), 429-451.
- Norris, R. S., Kristensen, H. M. (2008). "Global Nuclear Stockpiles, 1945-2006", Bulletin of the Atomic Scientists, 62 (4), 64-67.
- Nye, J. (1990). "Soft Power", Foreign Policy, 80, 153-171.
- OECD. (2008). Main Science and Technology Indicators, Paris: OECD.
- Ozdemir, H. (2008). "Uluslararası İlişkilerde Güç: Çok Boyutlu Bir Değerlendirme", Ankara Üniversitesi SBF Dergisi, 63(3), 113-144.

- Panda, J. (2007). "The Modernization Drive of the PLA and the New Defense White Paper", *China and Eurasia Forum Quarterly*, 5 (1), 21-28.
- Seyidoğlu, H. (2003). *Uluslararası Finans*, İstanbul: Güzem Can Yayınları.
- Setser, B. (2008). "A Neo-Westphalian International Financial System?", *Journal of International Affairs*. 62 (1), 17-34.
- SPRI. (2008). SPRI Yearbook 2008, London: Oxford University Press.
- Taylor, M. Z. (2005). The Politics of Technological Change: International Relations versus Domestic Institutions, *Work in Progress Colloquia*, Boston, MA: Massachusetts Institute of Technology, Department of Political Science.
- U.S. Department Of Defense. (2008). Annual Report to Congress The Military Power of The People's Republic of China 2008, Washington: Office of the Secretary of Defense.
- U.S. Office of Science and Technology Policy, U.S. National Space Policy, Washington, October 6, 2006.
- Waltz, K. N. (1979) Theory of International Politics, New York: McGraw-Hill.
- Waltz, K. (1990). "Realist Thought and Neorealist Theory", *Journal of International Affairs*, 44 (1), 21-37.
- World Intellectual Property Organization (WIPO). (2008, February 21). Unprecedented Number of International Patent Filings in 2007,
- <a href="http://www.wipo.int/pressroom/en/articles/2008/article">http://www.wipo.int/pressroom/en/articles/2008/article</a> 0006.html > (10.8.2008).
- Xinhua. (2006, May 25) "Plans for Developing New Weaponry Unveiled".