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Contracting Defense Sectors - Shortchanging European Security?

(Examining the Role of National Defense Vulnerabilities in Relation to the EU Cooperative Security)

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I. Introduction

There seems to be a prevailing apprehension that the financial crisis of 2008 may be turning into a security crisis as countries have cut their defense expenditures due to the subsequent austerity measures. Some European Union members introduced defense budget cuts that range from 10%-20%, lost some of their military capabilities, plan on downsizing their military arsenals, and struggle to deploy their troops in international military operations.¹ In 2012 only three European Union member states, namely Greece, the United Kingdom and Estonia, were spending over the NATO's required 2% of GDP on defense and eight were spending less than 1% of GDP.² Data in a recent publication of the Military Balance shows that Europe "collectively now spends only about 1.4% of GDP on defence," which is "one of the lowest proportions of GDP spent on defence of

¹ O'Donnell, Clara Marina (edt.). 2012. "The Implications of Military Spending Cuts for NATO's Largest Members." *Brookings Institution* (July), pp. 29.

<http://www.brookings.edu/~media/research/files/papers/2012/7/military%20spending%20nato%20odonnell/military%20spending%20nato%20odonnell%20pdf>

² (2013) Chapter Ten: Country comparisons – force levels and economics, *The Military Balance*, 113:1, 543-556, DOI: 10.1080/04597222.2013.757006. Table 25 International Comparisons of Defence Expenditure and Military Manpower, Defence Spending, Current US\$, mil. Link to this article: <http://www.tandfonline.com.ezproxy.bu.edu/doi/pdf/10.1080/04597222.2013.757006>

any region in the world – the only region that spends appreciably less on defence (as a proportion of GDP) is Latin America.”³ NATO Secretary General Anders Fogh Rasmussen warned that “if European defense spending cuts continue, Europe’s ability to be a stabilizing force even in its neighborhood will rapidly disappear.”⁴ Not so long ago, NATO’s deputy secretary general, Alexander R. Vershbow, a former senior Defense Department official, was heard saying that “‘the financial crisis has been corrosive to the alliance’ and that relations between the European Union and NATO remained ‘dysfunctional’.”⁵

The prevailing rhetoric on the negative consequences of the 2008 financial crisis for Europe’s military power, however, obscures existing variation in defense spending behavior among the countries in the European Union in the period following the financial crisis. Data from the European Defense Agency indicates that although in the period between 2008 and 2010 the majority of European states decreased their defense spending, Germany, the Netherlands, Poland and the UK actually increased their annual defense spending and France, the UK, Greece and Cyprus maintained their defense budgets over the NATO 2% GDP requirement on national defense despite decreasing their defense expenditures in absolute numbers.⁶ According to the data contained in the Military Balance, Denmark, Luxembourg, the United Kingdom, Austria, Finland, Estonia and

³ Rajendran, Giri. 2014. “What now for European defense spending?” April 9, 2014. Military Balance Blog. Posts from the IISS Defence and Military Analysis Programme. <http://www.iiss.org/en/militarybalanceblog/blogsections/2014-3bea/april-7347/what-now-for-european-defence-spending-e70e>

⁴ Rasmussen, Anders Fogh. 2011. “NATO After Libya: The Atlantic Alliance in Austere Times,” *Foreign Affairs* (90: 4). Link to the article: <http://www.foreignaffairs.com/articles/67915/anders-fogh-rasmussen/nato-after-libya?page=show>

⁵ Erlanger, Steven. April 22, 2013. “Shrinking Europe Military Spending Stirs Concern” *The New York Times*. Link to the article: <http://www.nytimes.com/2013/04/23/world/europe/europes-shrinking-military-spending-under-scrutiny.html?pagewanted=all>

⁶ Defense Data Portal, European Defense Agency (EDA) 2005 – 2012; Link to the databases: <http://www.eda.europa.eu/defencedata>

Malta actually increased their defense expenditure as % of GDP between the years 2008 and 2012 while the rest of the EU members actually cut their defense expenditures as % of GDP in the same period.⁷ Because defense is still a discretionary area of government spending and competes with government spending in other areas such as healthcare and social services,⁸ the national differences in the governmental decisions regarding defense expenditure suggests potential differences in perception of the relative importance of national defense. Because a choice on defense expenditure entails an insight into the country's strategic culture, the existing variation in defense expenditure in the aftermath of the 2008 financial crisis gives us reason to test the popularized null hypothesis that the 2008 financial crisis is correlated with a weakening of European military power.

What complicates the issue is that national cuts in defense expenditures after the financial crisis either in absolute numbers or as % of GDP are necessary but are not in themselves sufficient evidence of Europe's weakening military power. Without a consideration of government strategic culture the idea that Europe is decreasing its defense expenditure and weakening its military power as an unfortunate consequence of the 2008 financial crisis could be misleading at best as the same phenomenon could be explained by at least two alternative hypotheses. Firstly, cuts in defense expenditures in the period after 2008 could be related to national defense reform processes. Defense

⁷ Data for the year 2008: (2010) Chapter Nine: Country comparisons – commitments, force levels and economics, *The Military Balance*, 110:1, 441-472, DOI: 10.1080/04597220903545882. Table 39 International Comparisons of Defence Expenditure and Military Manpower, pp. 462-468; link to the article: <http://www.tandfonline.com.ezproxy.bu.edu/doi/pdf/10.1080/04597220903545882> . Data for year 2009: To cite this article: (2011) Chapter Ten: Country comparisons – commitments, force levels and economics, *The Military Balance*, 111:1, 451-482, DOI: 10.1080/04597222.2011.559843. To link to this article: <http://dx.doi.org/10.1080/04597222.2011.559843> . Data for the years 2010 through 2012: (2013) Chapter Ten: Country comparisons – force levels and economics, *The Military Balance*.

⁸ Erlanger, Steven. March 2014. "Europe Begins to Rethink Cuts to Military Spending." *The New York Times*, March 26, 2014. Link to the article: http://www.nytimes.com/2014/03/27/world/europe/europe-begins-to-rethink-cuts.html?_r=0

reform defined as “a coordinated series of actions designed to improve the efficiency and effectiveness of a state’s armed forces”⁹ entails an element of maximizing armed forces productivity at minimum expense. It is essentially about the effort to eliminate wasteful spending on national level. Thus, decreasing defense expenditures could be happening intentionally as governments strive to maintain national and European security posture at a lower cost. Germany could be an example of this trend. Its defense minister Ursula von der Leyen recently said that “rather than pledge a greater percentage of GDP on defense...the emphasis should be on the more efficient use of funds already set aside.”¹⁰ Defense reform related cuts in national defense spending seem increasingly plausible as countries intensify their collaboration under the *Pooling and Sharing* initiative, for example. The idea behind the initiative is to mitigate critical military capability shortfalls and thus also aim to ensure the effectiveness of national armed forces. Such approach has been advocated by Nick Witney, a former chief executive of the European Defense Agency, who recommends that we do “not worry about spending more” but about spending “the resources we have more wisely” and avoid “wasting so many defense resources on duplicative and incompatible programs.”¹¹

Secondly, decreasing trend in national defense spending could be a sign of strategic demilitarization. According to this hypothesis the decreasing trend in defense expenditures in Europe would be also happening intentionally but with the view of diminishing if not eliminating Europe’s military force posture. This assumption stems

⁹ DCAF Backgrounder. Defence Reform. 10/2009, p. 1. The link to this article: file:///C:/Users/Lenka%20J%20Wieluns/Downloads/22_defence%20reform.pdf

¹⁰ “NATO defense ministers agree on ‘readiness plan.’” *Deutsche Welle* online, June 4, 2014. The link to the article: <http://www.dw.de/nato-defense-ministers-agree-on-readiness-plan/a-17680577> (permalink: <http://dw.de/p/1CBWb>)

¹¹ Erlanger, Steven. March 2014.

from a purist understanding of the idea of normative power Europe. According to this concept the availability of military capabilities and recourse to the use of military force are by definition alien to the idea of Europe as a normative as opposed to the traditional Westphalian power.¹² Therefore under the conditions of mutual exclusiveness between normative and military power, the decline in defense expenditure would not be a consequence of an exogenous event but rather a product of Europe's diminishing internal strategic defense ambition. There is evidence that lends credibility to the postulate that cuts in defense expenditure, force strength and capabilities might be occurring in the context of a dwindling political support for Europe as a military power after the 2008 financial crisis. For example, in 2011 NATO's Secretary General Anders Fogh Rasmussen expressed the belief that the mission in Libya "revealed that NATO allies do not lack military capabilities [and that] shortfalls have been primarily due to political rather than military constraints."¹³ Amb. Istvan Gyarmati, the President and CEO of International Center for Democratic Transition, postulated that: "...the defense cuts are not about financial and economic crisis, but about the fact that Europe resigned on her defense and entirely lost her ambitions."¹⁴

Decreasing defense expenditure in Europe after the 2008 financial crisis therefore presents a situation that could be potentially explained by three hypotheses: 1) cuts in defense spending are an unintentional consequence of the austerity measures taken due to

¹² Diez, Thomas. 2005. "Constructing the Self and Changing Others: Reconsidering 'Normative Power Europe'," *Millennium Journal of International Studies*, 2005, 33:613, pp.620-621. Link to the article: <http://mil.sagepub.com.ezproxy.bu.edu/content/33/3/613.full.pdf+html>

¹³ Rasmussen, Anders Fogh. 2011. "NATO After Libya: The Atlantic Alliance in Austere Times," *Foreign Affairs* (90: 4). <http://www.foreignaffairs.com/articles/67915/anders-fogh-rasmussen/nato-after-libya?page=show>

¹⁴ NATO 2020 and the Armed Forces: Way Ahead. Summary and Conclusions of the Conference held on October 2-3, 2012 in Bratislava, Slovakia. *Center for European and North Atlantic Affairs*. The event was organized and financially supported by NATO Public Diplomacy Division and Ministry of Defense of the Slovak Republic. <http://cenaa.org/wp-content/uploads/2012/10/NATO-2020-conclusions-final.pdf>

the 2008 financial crisis; 2) decreasing defense expenditure is happening intentionally as part of a defense reform process aimed at increasing the effectiveness of Europe's military power at a lower cost; 3) observed defense spending cuts are associated with intentional strategic demilitarization of a growing normative power Europe. While the first and third postulate suggest a correlated weakening in European power, the second one would contain elements of intentional enhancement of Europe's military posture.

The discussion in the rest of the paper is as follows. First, I will address the scope, methodology and data analysis with respect to the three hypotheses explained above. Second, I will examine empirical evidence and present key findings relative to each of the hypotheses. Third, I will conclude with a summary of the findings and present a concluding argument that European military power has not suffered a pervasive weakening as a consequence of the 2008 financial crisis.

II. Scope, Methodology and Models for Data Analysis

The scope of this enquiry entails a group of 27 European countries in the period between 2000 and 2012 that were EU member states by 2012.¹⁵ Apart from the difference-in-difference comparisons of absolute and average data before and after 2008, I use qualitative comparative analysis incorporating Boolean algebra to analyze the data on defense economy, strategic culture, military force strength, military equipment and the

¹⁵ This group entails Austria (AT), Belgium (BE), Bulgaria (BG), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Germany (DE), Greece (EL), Hungary (HU), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT), Netherlands (NL), Poland (PL), Portugal (PT), Romania (RO), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE) and the United Kingdom (UK).

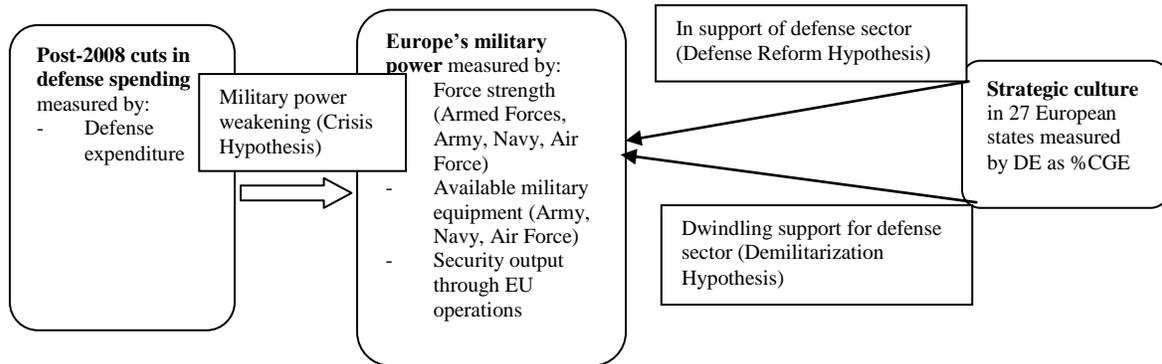
cost of participation in European Union operations for evidence relating to the presented hypotheses.¹⁶

Because the scope of the study inherently entails a limited number of countries, choosing qualitative comparative study based on Boolean algebra to make inferences about causal relationships between defense economy, strategic culture and military power partially alleviates the small N problem. The approach rooted in Boolean algebra is used to identify the type of change in the data between two consecutive years (YtY change), list the number of occurrences of each type of change within a ‘truth table’ and count the total number of each type of change per country and in Europe within the 2000-2012 period of time. The coding system framed by Boolean algebra also allows for a comparison of YtY decreases to YtY increases (D:I) or an examination of the actual pattern of YtY change after 2008 and a relationship between various variables, such as whether cuts in the strength of military force occurred alongside cuts in defense expenditure between two consecutive years or whether these changes were dichotomous.

In order to make inferences about how the post-2008 European decreases in defense expenditures align with the three hypotheses stated above data on defense expenditure, economic growth, military power and strategic culture will be assessed in accordance with the following chart:

¹⁶ There are two reasons for framing the enquiry into the problem of whether the exogenous shock of the 2008 financial crisis correlates with a weakening of Europe’s military power: firstly, because the EU has had the ambition to cooperate in the area of defense it allows for an assessment of military power in Europe not only on national level but also on collective level, which is one of the defining elements of the present investigation. Secondly, the twelve year span from 2000 to 2012 (where applicable) allows for a comparison of changing patterns before and after the 2008 financial crisis.

Chart 1. – Causal Relationships between Change in Defense Expenditure and European Military Power after 2008



The expectations associated with testing for the crisis hypothesis, which suggests a correlation between post-2008 defense spending cuts and Europe's weakening military power, would be twofold. Firstly, if the cuts in defense expenditure are correlated with the 2008 economic crisis and the associated austerity measures we should expect that the cuts are synchronous with decreasing annual % GDP growth and that they are more frequent than the cuts in defense spending under conditions of economic decline prior to 2008. Secondly, the claim that the 2008 financial crisis is weakening Europe's military power will be further assessed against the expectation of greater post-2008 decrease in the national military force strength, national military equipment stock, and the EU security output proxied by a decrease in operational cost per deployed personnel in the EU military operations under the conditions of economic decline.

The second order of analysis postulates two alternative hypotheses behind the defense expenditure cuts in the post-2008 period and carries important implications for Europe's military power. On one hand post-2008 decreasing defense expenditure in Europe could be part of defense reform process that would contradict the claim that defense expenditure cuts after 2008 are strictly associated with a weakening of military power in Europe. To see if there are signs of defense reform after 2008, I will look for

patterns of modernization in the period from 2000 to 2012. Modernization of the armed forces, which is part of defense reform, normally requires some financial investment in military equipment.¹⁷ I will look for evidence of YtY increases in the % of defense spending on military equipment alongside YtY cuts in the size of military equipment stock. Because the less military equipment stock the lower the expectation of necessary expenditure on its maintenance and repairs, the dichotomous relationship between increases in defense expenditure on equipment while equipment stock is diminishing should minimize confounders related to increased defense expenditure on equipment maintenance or repairs of a growing equipment stock rather than modernization. Furthermore, such modernization investment should not be reasonably expected either under conditions of effective austerity measures that would not allow for it or strategic demilitarization, which would aim at diminishing military force in principle. Therefore, an increase in defense expenditure allocated toward military equipment as the number of military equipment decreases could sufficiently proxy modernization and by extension defense reform. In the last step, I will examine correlation between defense reform and cuts in defense expenditure.

On the other hand, cuts in defense expenditure after the 2008 financial crisis could signify strategic demilitarization in Europe and by extension a weakening of Europe's power by design. Weakening in Europe's military power after 2008 would be an intentional consequence of a demilitarizing strategic culture. Strategic culture is often defined as "the sum of ideas, conditioned emotional responses, and patterns of habitual

¹⁷ DCAF Backgrounder, p.4

behaviour that members of a national strategic community share.”¹⁸ Strategic defense culture entails the idea that the set of beliefs, historical experiences and preferences about the use of force and defense matters in general informs political decision-making in the area of defense. As Alan Macmillan suggests: “[t]he decision-making process in matters of defence is not an abstract construct based purely in the present moment but is, rather, steeped in the beliefs, biases, traditions and cultural identity of the individual country-all of which feeds into its strategic culture.”¹⁹ In order to proxy decreasing military strategic culture I look for a decrease and a greater frequency of cuts in defence expenditure as % of central government expenditure (DE%CGE) in the period after 2008 relative to the pre-2008 period. I empirically model demilitarization as decrease in DE%CGE at times of improving economy signified by YtY increase in annual % GDP growth. The reasoning goes as follows: in times of economic growth that follow a financial crisis, continued decreases in ME%CGE could indicate government’s demilitarizing strategic culture.²⁰ If a government was not demilitarizing strategically the expectations would be that it would increase *relative* expenditure on defence once the conditions of austerity have diminished or been removed. A country that continues to cut relative expenditure on defence under improved economic conditions excludes the possibility that these cuts were related to the 2008 financial crisis or defence reform and suggests demilitarizing strategic culture. In order to account for the degree of demilitarization, I compare it to the

¹⁸ Snyder 1977:8 in Longhurst: a 2000:302: Longhurst, Kerry, (2000) ‘The Concept of strategic Culture’ in Gerhard Kummel & Andreas D. Prufert (eds), ‘Military Sociology’ Nomos Verlagsgesellschaft, Baden-Baden

¹⁹ Katzenstein, Peter (ed), (1996), ‘The Culture of National security’, Columbia University Press, New York.

²⁰ Capturing strategic defense culture as a the importance of the defense sector at a strategic level of decision-making vis-à-vis other government sectors entailed in the DE%CGE variable should not in theory capture defense reform, which would maintain increase in DE%CGE rather than the decrease in DE%CGE related to the modeled strategic demilitarization. Even under conditions of increased DE%CGE, defense reform occurs when the absolute defense expenditure decreases.

occurrence of defence reform measured as increases in DE%CGE at times of decreasing annual % of GDP. Increase in financial resources allocated to defence at times of economic hardship would indicate strategic support for defence matters and thus would measure defence reform rather than either demilitarization, which would aim at decreasing financial resources for defence, or austerity measures under which such an increase would not be politically possible vis-à-vis other government sectors. Lastly, to assess the occurrence of demilitarizing strategic culture vis-a-vis austerity measures, I compare it with decreases in DE%CGE at times of worsening economic climate. Greater empirical evidence in support of demilitarization relative to either defence reform or austerity measures could provide first-order support for this hypothesis. Lastly, I will examine the data for a synchronous relationship between demilitarization and cuts in DE to complete the test of the third hypothesis.

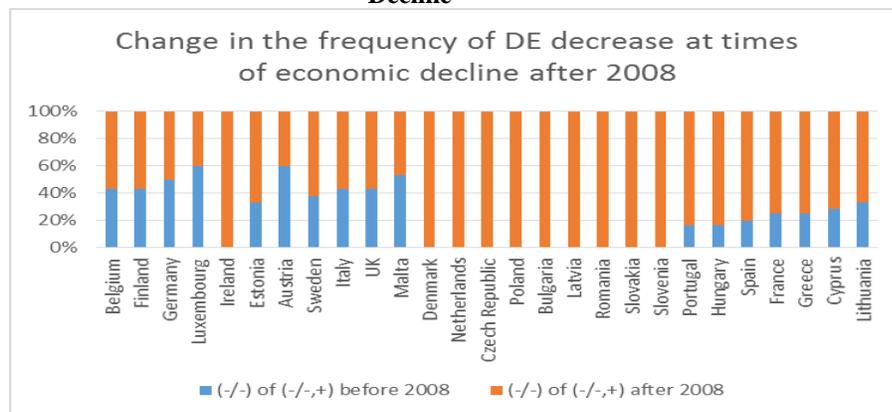
With the above models in place I attempt to examine the data in such a way that should put first-order empirical girth behind the hypothesized phenomena and the relationships between post-2008 cuts in defense expenditure and Europe's military power.

III. Are post-2008 cuts in defense spending a result of the 2008 financial crisis and are they weakening European military power?

There is strong empirical evidence to support the claim that most cuts in defense expenditure after 2008 are causally related to the 2008 financial crisis. The data shows that 66.67% of the 27 European countries at least doubled the frequency of cuts in defense expenditure under conditions economic decline after 2008 and in aggregate, the post-2008 frequency of this phenomenon increased by about 51.47% beyond the pre-

2008 level. The most convincing evidence in support of the effect of the financial crisis on national cuts in defense expenditure is illustrated by cuts in DE under conditions of negative economic growth in 37% of the European countries (DK, NL, CZ, PL, IE, BG, LV, RO, SK, SI), which occurred *only* after 2008. In addition, the frequency of national cuts in defense expenditure doubled or more than doubled after 2008 in 8 European countries (FR, EL, PT, ES, HU, CY, EE, LT) or in 29.63% of the cases (see Chart 2.).

Chart 2. Post-2008 Cuts in Defense Expenditure (DE) under the Conditions of Economic Decline



Sources: Data on DE obtained from The Military Balance publications from 2002, 2004, 2005, 2007, 2010, 2011, 2013. Data on annual % GDP growth obtained from World Bank online at market prices based on constant local currency: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries?display=default>

At the aggregate European level the occurrence of defense expenditure cuts relative to defense expenditure increases under conditions of economic decline rose by 51.47% or more than doubled after 2008. Lastly, the synchronous relationship between declining annual %GDP growth and decreasing defense expenditure was experienced by most countries (22 out of 27) between the years 2008 and 2009, or immediately after the 2008 financial crisis, and again between 2011 and 2012.

Furthermore, to ascertain whether the 2008 financial crisis triggered a general degradation of Europe's military power, we should look for empirical evidence of a greater post-2008 decline in the extent of cuts in non-economic elements of military power and a rise in the frequency of cuts in elements of Europe's military power under

conditions of declining economic growth beyond the pre-2008 levels. The data shows that cuts in military force and equipment that exceeded the average pre-2008 values occurred at the national level but did not occur at the collective level in the measurement of collective security output. Specifically, post-2008 decrease in the combined national strength of the Armed Forces of the 27 European states occurred in 70.37% of the 27 EU countries (HU, LV, BE, DK, FR, EL, CZ, AT, FI, SE, LT, DE, NL, BG, RO, SK, SI, PT, UK, PL, CY, EE) and average cuts in national military equipment of the 27 Armed Forces occurred in 88.89% of the EU countries (BE, DK, FR, DE, EL IT, NL, PT, ES, UK, CZ, HU, PL, AT, FI, SE, BG, CY, EE, LV, LT, RO, SK, SI). At the level of the Army, Navy and the Air Force, the deepest cuts in both military force and equipment of the Army, Navy and the Air Force ranged between 50% and 70% beyond the pre-2008 levels and occurred on average in 12% of the 27 EU countries (see Table 2.). The least extensive cuts up to 20% beyond the average pre-2008 levels were made by 44.9% of the EU states. Moreover, all average post-2008 cuts in military forces of the Army, Navy and Air Force among the EU states also exceeded the average post-2008 increases in national military forces (see Table 2.). In case of military equipment, the deepest cuts reached the highest level at 82.24% in the Army and were made by about 22.84% of the EU countries. Relative to average post-2008 increases in the military equipment it would seem that while post-2008 equipment cuts exceeded an increase in military equipment in the Army and the Air Force, they were smaller than the increase in the Navy military equipment (see Table 2.).

An analysis of the extent of post-2008 cuts in military force and equipment based on the patterns of change derived from Boolean logic leads to the conclusion that about

62.96% of the European states (BE, DE, EL, NL, PT, UK, CZ, HU, PL, AT, FI SE, BG, LV, LT, RO, SK) have made cuts in both military equipment and military force beyond average pre-2008 levels and out of this group about 70.59% made more extensive cuts in military equipment (BE, DE, EL, PT, CZ, HU, AT, FI, SE, LV, LT, RO) and 29.41% in military force (NL, UK, PL, BG, SK). About 33.3% of all 27 European states made consistent cuts in military force and equipment in the Army, Navy and Air Force (DE, NL, UK, CZ, HU, AT, BG, RO, SK). The data shows that 25.93% of the 27 European countries (DK, FR, IT, ES, CY, EE, SI) made post-2008 cuts in military equipment but increased post-2008 size of their military forces and that the situation was reversed in 7.41% of the countries (IE, MT), which decreased their military force but increased their military equipment stock after 2008. Only Luxemburg does not show any cuts in either military force or equipment after 2008 relative to the average pre-2008 levels.

However, at the collective EU level, the average post-2008 cost per personnel deployed in EU military operations increased by about 32.26% (see Table 2.). The post-2008 increases in the frequency of cuts in this indicator of European military power was actually not deep enough at the EU collective level to warrant a claim that European power is weakening at the EU level.

Table 2. - Extent of the post-2008 Decrease in European Military Power

Extent of post-2008 change	MILITARY EQUIPMENT				MILITARY FORCE				EU MILITARY OPERATIONS (cost per deployed personnel)	EU CIVILIAN POLICE OPERATIONS
	Armed Forces	Army	Navy	Air Force	Armed Forces	Army	Navy	Air Force	cost per deployed personnel	cost per deployed personnel
<-70%	7.41%	7.41%								
<-50%	25.93%	33.33%		20.00%		25.93%	5.56%	4.35%		
<-20%	29.63%	22.22%	11.11%	55.00%	37.04%	18.52%	33.33%	30.43%		
<0%	25.93%	18.52%	18.52%	10.00%	33.33%	37.04%	50.00%	47.83%		
(=)0		3.70%								
>0%	3.70%	11.11%	11.11%		22.22%	11.11%	11.11%			
>10%			18.52%	5.00%	7.41%	3.70%		8.70%		
>20%				5.00%					Y	
>40%			3.70%			3.70%		4.35%		

>70%			3.70%							Y
>=100%	7.41%	3.70%		5.00%						
na	0.00%	0.00%	29.63%	25.93%			47.37%	17.39%		
Total cuts	88.89%	81.48%	29.63%	85.00%	70.37%	81.48%	88.89%	82.61%	EU level	EU level
Total cuts relative to increases	8.00	5.50	0.80	5.67	2.38	4.40	8.00	6.33	32.26% (mil) :92.33% (civ)	

Sources: Data on military equipment and military force obtained from The Military Balance publications from 2002, 2004, 2005, 2007, 2010, 2011 and 2013. Data on EU military operations and civilian police missions accessed at the SIPRI Multilateral Peace Missions Overview website: http://conflict.sipri.org/SIPRI_Internet/index.php4

A comparison of cuts in military force against the cuts in military equipment leads to the conclusion that the most pervasive aggregated cuts in the European countries affected the Air Force, while medium cuts affected the Army force and equipment proportionally and overall medium cuts in the Armed Forces and the Navy affected the military force and equipment disproportionately (see Table 3.)

Table 3. – Typological Overview of the Extent of Cuts in non-Economic Indicators of Europe’s Military Power

Extent of Cuts in Military Equipment relative to Military Force:		Force strength		
		Highest	Medium	Lowest
Equipment	Highest		Air Force	Armed Forces
	Medium		Army	
	Lowest			
	No cuts	Navy		

A more granular analysis that looks at patterns of the pre- and post-2008 change in the frequency of cuts under the conditions of economic decline in the national Armed Forces shows that the 2008 financial crisis might have had a negative affect in 29.63% of the countries in which it either increased pre-existing frequency of cuts in the national Armed Forces troop size (BE, DK, HU, AT, FI) or spurred on these cuts after 2008 for the first time (CY, LT, SK). This compares to about 29.63% countries in which the frequency of cuts in military force strength decreased but remained present, suggesting a diminishing negative effect of the 2008 financial crisis. The crisis would seem to have no negative effect or no effect in 33.33% of the European countries (see Table 4.)

Table 4. - Post-2008 Pattern of Change in the Size of Military Force of the National Armed Forces based on Frequency of Cuts Before and after 2008

Pattern of post-2008 Change in the occurrence of cuts under conditions of economic decline	Number of countries	% of 27 European countries	List of European Countries	Interpretation relative to the financial crisis of 2008
Decreased but still present	8	29.63%	DE, EL, IT, NL, UK, PL, SE, RO	Crisis had a diminishing negative effect
Disappeared	6	22.22%	FR, ES, BG, EE, SI, CZ	Crisis had no negative effect
No change	3	11.11%	PT, IE, LV	Crisis had no effect
Increased	5	18.52%	BE, DK, HU, AT, FI	Crisis had an increasingly negative effect
Neither before nor after	2	7.41%	LU, MT	na
Occurred only after 2008	3	11.11%	CY, LT, SK	Crisis could have precipitated frequency of cuts

The 2008 financial crisis might have negatively affected the size of Armed Forces equipment stock in 22.22% of the European countries (UK, AT, SE, CY, SK, MT) as it either increased pre-existing occurrence or precipitated first-time occurrence after no pre-2008 instances of YtY cuts in military equipment. This compares to 37.04% of the countries in which the crisis might have had a continued but weakening negative effect on the size of Armed Forces military equipment stock (DK, FR, DE, EL, IT, NL, ES, CZ, HU) and about 37.03% of the European countries (PL, IE, EE, LV, BE, PT, FI, BG, LT, RO) in which the financial crisis seemingly did not affect the stock of military equipment either in negative way or at all in (see Table 5.)

Table 5. - Post-2008 Pattern of Change in the Size of Military Equipment Stock of the National Armed Forces based on Frequency of Cuts Before and after 2008

Pattern of post-2008 Change in the occurrence of cuts under conditions of economic decline	Number of countries	% of 27 European countries	List of European Countries	Interpretation relative to the financial crisis of 2008
Decreased but still present	10	37.04%	DK, FR, DE, EL, IT, NL, ES, CZ, HU	Crisis had a diminishing negative effect
Disappeared	4	14.81%	PL, IE, EE, LV	Crisis had no negative effect
No change	6	22.22%	BE, PT, FI, BG, LT, RO	Crisis had no effect
Increased	5	18.52%	UK, AT, SE, CY, SK	Crisis had an increasingly negative effect
Neither before nor after	1	3.70%	LU	na
Occurred only after 2008	1	3.70%	MT	Crisis could have precipitated frequency of cuts

A comparison of cuts to increases in military force and equipment suggests that the financial crisis might be causally related to the cuts in the military equipment of the Armed Forces and the Army and in the force strength of the Armed Forces, Army, Navy and the Air Force (see Table 6).

Table 6. - Post-2008 average frequency of cuts under conditions of economic decline relative to pre-2008 levels

Post-2008 change in avg frequency of cuts under conditions of economic decline beyond pre-2008 levels	Increase in avg frequency of cuts		Decrease in avg frequency of cuts		No change	
Total Armed Forces (equipment)	51.85%	BE, DK, PT, UK, CZ, AT, FI, SE, BG, CY, LT, MT, RO, SK	22.22%	FR, ES, PL, IE, EE, LV	25.93%	DE, EL, IT, LU, NL, HU, SI
Army (equipment)	48.15%	BE, DK, ES, UK, CZ, AT, FI, SE, BG, CY, LT, RO, SK	25.93%	FR, DE, IT, PL, IE, EE, LV	25.93%	EL, LU, NL, PT, HU, MT, SI
Navy (equipment)	31.58%	DK, NL, PT, UK, FI, BG	36.84%	BE, FR, EL, IT, ES, SE, EE	31.58%	DE, PL, LV, LT, RO, IE
Air Force (equipment)	26.09%	BE, EL, AT, FI, SE, SK	30.43%	FR, DE, ES, UK, CZ, PL, BG	43.48%	DK, IT, NL, PT, HU, IE, EE, LV, LT, RO
Total Armed Forces (force strength)	51.85%	BE, DK, NL, PT, HU, AT, FI, IE, SE, CY, LV, LT, SK, UK	33.33%	FR, DE, EL, IT, ES, CZ, BG, EE, SI	14.81%	LU, PL, MT, RO
Army (force strength)	48.15%	BE, DK, ES, UK, CZ, AT, SE, BG, CY, LT, RO, SK, FI	25.93%	FR, DE, IT, PL, IE, EE, LV	22.22%	EL, LU, NL, PT, HU, MT, SI
Navy (force strength)	52.63%	BE, DK, DE, NL, UK, FI, IE, SE, EE, RO	26.32%	FR, IT, ES, BG, LT	21.05%	EL, PT, PL, LV
Air Force (force strength)	52.17%	BE, FR, NL, UK, CZ, HU, PL, FI, IE, SE, LV, SK	26.09%	IT, PT, ES, BG, EE, LT	21.74%	DK, DE, EL, AT, RO
cost/deployed personnel in EU mil ops	Yes		No		No	
% fulfillment mandate military ops	No		No		Yes	

The empirical analysis of non-economic indicators of military power in relation to the 2008 financial crisis leads to the conclusion that although the 2008 financial crisis seems to have had a negative effect on most but not all elements of Europe's military power, the overall power of Europe might not have been weakened relative to the pre-2008 period (see Table 7.). At the national level, the financial crisis seems to be causally related to most decreases in military power with the exception of aggregate cuts in military equipment in the Navy and the Air Force. The financial crisis seems to have had a highly extensive negative effect on naval military force and Armed forces military equipment, which could be interpreted as a weakening in military power relative to the

pre-2008 levels. Furthermore, it might have caused damage of medium extent in the Army (both military force and equipment) and the military force of the Air Force, which might be seen as a potentially weakening military power in Europe. The crisis seems to have negatively affected the military force of the Armed Forces but the cuts were not extensive enough to be seen as a weakening in the military power of Europe beyond the pre-2008 levels. Weakening of the military power in the area of Air Force equipment does not appear to be causally related to the financial crisis and there seems to be no evidence of a causal link between the crisis and the cuts in naval equipment, which appear lower than the pre-2008 levels and would thus not constitute a weakening in the military power of Europe.

At the collective level, there is evidence to show that although the financial crisis might have had a negative effect on the European power at the collective level given the increase in the frequency of post-2008 cuts in cost per personnel deployed in EU military operations, it has not, on average, made it weaker relative to the pre-2008 period. Furthermore, there is evidence to suggest that Europe’s military power does seem to be generally weaker than its civilian power after 2008 given the greater post-2008 increase in cost/personnel deployed in civilian police missions.

Table 7. – Assessment of the relationship between the 2008 financial crisis and a weakening in the military power of Europe

Post-2008 decrease relative to pre-2008 levels		Armed Forces	Army	Navy	Air Force	EU military operations
Military force	More extensive cuts	Low	Medium	High	Medium	na
	Greater frequency of cuts	Y	Y	Y	Y	na
	Weakening in power related to crisis	N	Yp	Y	Yp	na
Military equipment	More extensive cuts	High	Medium	No	High	na
	Greater frequency of cuts	Y	Y	N	N	na
	Weakening in power related to crisis	Y	Yp	N	N	na
Cost per deployed personnel	More extensive cuts	na	Na	na	na	N
	Greater frequency of cuts	na	Na	na	na	Y
	Weakening in power related to crisis	na	Na	na	na	N

Note: National level: 3N to indicate no overall weakening in European military power; 2Y to indicate weakening of military power in Europe; 3pY to indicate potential weakening in Europe's military power. At the collective level: 1N to indicate to general weakening in EU military power.

IV. Could the cuts in defense expenditure after 2008 be associated with defense reform?

Post-2008 evidence of dichotomous increases in the % of defense spending on military equipment alongside cuts in the size of military equipment stock suggests that defense reform²¹ did occur in some form in the European NATO member states after 2008 but was put on hold or suffered in about 66.66% of the European NATO member states after 2008 and was seemingly unaffected by the financial crisis in 23.81% of the countries. Defense reform might have been spurred-on by the crisis only in Greece or 4.76% of the countries. Luxembourg is the only country not showing any occurrence of this relationship and this particular proxy might not capture potential defense reform in the country.

Table 8. – Overview of the post-2008 relationship between defense reform and cuts in defense expenditure

Post-2008 change in defense expenditure cuts occurring at times of modeled defense reform	Number of countries	% countries	List of countries	Analysis
Never occurred either before or after 2008	10	47.62%	DK, IT, LU, ES, UK, PL, EE, LV, LT, SI	Defense reform either did not have any effect on DE cuts or countries not conducting this kind of defense reform
Only after 2008	5	23.81%	EL, CZ, BG, RO, SK	Evidence of cuts in defense expenditure correlated with defense reform
Only before 2008	2	9.52%	BE, PT	This type of defense reform ceased having effect on cuts in DE after the crisis
Greater after 2008	0	0%	-	Cuts in DE correlated with defense reform enhanced after the crisis
Greater before 2008	2	9.52%	DE, HU	Weakened correlation between defense cuts due to defense reform after 2008
No change	2	9.52%	FR, NL	This type of defense reform did not affect increased cuts in DE after 2008

However, when defense reform modeled on modernization efforts within the Armed Forces is transposed over cuts in defense expenditure to see where defense reform

²¹ As the data on the relative defense spending allocated toward equipment is available only for those European states that are NATO members, this assessment will be limited to this group of countries.

might be correlated with cuts in defense expenditure due to the financial crisis, only 23.81% of the 21 European NATO MS countries (EL, CZ, BG, RO, SK) support this hypothesis. There was no country case to support the claim that the correlation between defense reform and cuts in defense expenditure was enhanced after the crisis. In about 47.62% of these 21 European countries (DK, IT, LU, ES, UK, PL, EE, LV, LT, SI) defense reform of this type does not appear correlated with cuts in defense expenditure after 2008 or simply does not capture the type of defense reform that the countries might have been conducting. In DE and HU or 9.52% of the countries the correlation between defense reform and cuts in defense expenditure after the crisis weakened. In BE and PT, or 9.52% of the 21 cases, the pre-2008 correlation between this type of defense reform and cuts in defense expenditure ceased to occur. Both FR and NL show instances of this correlation but also no change between pre-2008 and post-2008 frequency in its occurrence, which may mean that the crisis did not seem to affect the existing correlation in these 9.52% of the 21 cases. Even though the type of defense reform that was modeled here does not cover the full spectrum of the defense reform process, the data shows that decreases in defense expenditure were correlated *at least* in 23.81% of the European NATO MS.

V. Is Europe undergoing strategic demilitarization and could it be correlated with the post-2008 cuts in defense expenditure?

The difference in the total occurrence of YtY demilitarization, modelled as a decrease in DE%CGE at times of improving economy before and after 2008, suggests that strategic demilitarization may be occurring only in France as it is the only state showing an increase in pre-existing frequency of demilitarization after 2008. It would

seem that demilitarization behavior before 2008 did not change after 2008 in 18.52% of the European countries (ES, FI, EE, MT, SI) and the frequency of YtY demilitarization seems to have diminished in 77.78% of the European states after 2008 with the greatest drop being recorded for Ireland and the smallest decrease being exhibited by 10 European states or 37.04% of the cases (BE, DE, IT, PT, CZ, HU, PL, AT, LV, SK).

Post-2008 change in the occurrence of YtY demilitarization relative to the modeled experience of defense reform shows that demilitarization experience was strengthened in about 55.56% of the cases relative to the frequency of post-2008 defense reform (see Table 9.).

Table 9. – Post-2008 experience of demilitarization relative to defense reform

Pre- and post-2008 change in demilitarization (3) relative to defense reform (0)	Number of EU countries	List of EU countries	Interpretation	% of EU countries
same to only 3	5	BE, FR, ES, CZ, IT	demilitarization prevailed over reform	18.52%
3>0 to no 3	4	DK, LU, CY, RO	reform stifled demilitarization philosophy	14.81%
only 3 to only 3	3	DE, HU, BG	no effect on seemingly ongoing demilitarization	11.11%
only to neither	1	EL	stifled - but not sure what happened	3.70%
>3 to only 3	4	NL, PT, UK, AT	pre-existing demilitarization snuffed out reform	14.81%
only 3 to no 3	1	SE	demilitarization snuffed by reform	3.70%
3<0 to no 3	1	PL	small potential demilitarization snuffed by reform	3.70%
3<0 to only 3	3	FI, SK, MT	small potential for demilitarization blossomed after 2008	11.11%
3<0 to same	3	EE, LV, LT	increase in demilitarization over reform but neither a prevailing philosophy	11.11%
no 3 to no 3	1	SI	no signs of demilitarization before or after	3.70%
only 3 to same 3and 0	1	IE	weakened potential demilitarization and rise in reform	3.70%

The frequency of demilitarization relative to the hypothesized austerity measures seems to have weakened in about 44.74% of the states, strengthened in about 22.22% of European states and disappeared in 11.11% of the cases in the period after 2008 (see Table 10.). Demilitarization appears to have completely solidified only in France as the occurrence of austere defense economy no longer appears after 2008.

Table 10. – Relationship between potential Demilitarization and 2008 financial crisis-related austerity measures

post-2008 change in frequency of demilitarization (3) relative to austerity measures (5)	Occurrence	Countries	% of Countries	Analysis
3<5 to 3<5 and 3 decreased	2	BE, CZ	7.41%	no signs of overwhelming demilitarization
3<5 to 3<5 and 3 to none	5	DK, EL, IT, SE, CY	18.52%	potential demilitarization snuffed out
3<5 to only 3	1	FR	3.70%	demilitarization spurred on by crisis
3<5 to same	4	DE, UK, FI, EE	14.81%	potential demilitarization on the rise but not overwhelming philosophy
same to no 3	2	LU, PL	7.41%	potential seeds of demilitarization snuffed out
same to 3<5	1	NL	3.70%	potential demilitarization even lessened
same to same	2	PT, MT	7.41%	potential demilitarization present but crisis no effect in either direction
3<5 to 3>5	1	ES	3.70%	potential demilitarization precipitated by crisis
3>5 to 3<5	4	HU, AT, BG, SK	14.81%	demilitarization weakened
3>5 to same	3	IE, LV, LT	11.11%	demilitarization weakened
3>5 to no 3	1	RO	3.70%	demilitarization snuffed out
no 3 to no 3	1	SI	3.70%	no signs of demilitarization philosophy

Lastly, as FR is the only viable candidate for strategic demilitarization and as its two instances of pre-2008 co-occurrence of YtY demilitarization with YtY cuts in defense expenditure were followed by zero overlap between these two indicators after 2008, it would seem that the cuts in defense expenditure were not related with strategic demilitarization in the 27 European countries *at all*. Furthermore, there is some evidence of defense cuts being correlated with instances of demilitarizing behavior in 33.33% of the 27 European states (DK, EL, NL, CZ, BG, LV, RO, SK, SI). The fact that there is an overlap between the countries that show correlation between defense reform and cuts in DE after 2008 and a correlation between DE cuts and modeled demilitarization may suggest that countries fluctuate between these two tendencies on a strategic level with both having a negative relation with defense expenditure, as would be expected.

VI. - Conclusion

The empirical analysis points to a conclusion that most cuts in defense expenditure among the 27 European countries are related to the 2008 financial crisis but the military power of Europe does not seem to have been pervasively weakened relative to the pre-2008 status. And at the collective EU level, the negative impact of the financial crisis was not deep enough to weaken Europe's military power.

A weakening of European power on national level due to the 2008 financial crisis might have been convincingly driven only by cuts in the combined stock of military equipment of the Armed Forces. Weakening in the military power does not seem causally related to the 2008 financial crisis in the case of decreases in the equipment of the Navy and the Air Force, which could be a sign of defense reform. And while the 2008 financial crisis seems to have negatively impacted the troop strength of the Armed Forces, it did not seem to be extensive enough to warrant a weakening of power in this area.

With regards to the two alternative hypotheses, the data shows that decreases in defense expenditure between 2008 and 2012 were correlated with defense reform at least in 23.81% of the 21 European NATO member states (EL, CZ, BG, RO, SK). This may not, however, capture the full spectrum of defense reform activities and there may be further evidence in support of this hypothesis. As modeled here, demilitarization experience has become less frequent after 2008 on its own as well as in comparison with austerity measures but it occurred in more countries than defense reform. France is the only country showing signs of demilitarizing strategic culture but no post-2008 correlation between demilitarization and cuts in defense expenditure. Although the analysis suggests that there was no correlation between demilitarizing strategic culture

and cuts in defense spending in Europe at all, some countries did exhibit a correlation between cuts in defense expenditure and demilitarization experience. This could mean that the strategic culture in these countries fluctuates between defense reform and demilitarization (EL, CZ, BG, RO, SK). Given this empirical evidence one could argue that cuts in defense expenditure after 2008 were *mostly* a consequence of austerity measures rather than defense reform or demilitarization.

This empirical analysis, however, serves only as a first-order examination of the potential trends and relationships between the patterns in economic and non-economic indicators of military power and is not complete without further qualitative case study analysis of some of the countries identified by the empirical analysis. At the same time, empirical modeling could be improved with data capturing ideational aspect of strategic defense culture and supplemented by more indicators of military power and defense reform. And a follow-up comparison of patterns between EU and European NATO member states, non-NATO member states, NATO as a whole and even OECD countries could reveal further insight not only into the strength of military power of Europe on its own but in relation to some other relevant security players in the world.

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