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PRIVATIZING MILITARY LOGISTICS

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This chapter sets out to explain why governments are privatizing military logistics, and what implications such a trend has for the supply of war into the future. It takes a broad approach, examining a variety of drivers behind military outsourcing and the problems that outsourcing creates politically and for military commanders who are responsible for utilizing force. Our main objective is to show that logistics outsourcing is possibly the most representative and important (yet neglected) aspect of the wider phenomenon of military outsourcing. It most comprehensively encapsulates the drivers of contracting in general, involves the largest number of the contractor workforce and expenditure, and is exemplary of the future of military outsourcing. Moreover, not only is it highly relevant to foreign and defence policy, but governments have also become heavily dependent on logistics contractors for the long term whereas they could – political will provided – always replace private security contractors with regular troops. This should cause us to reconsider the overwhelming focus the literature places on the outsourcing of various security functions to armed contractors.

This chapter first defines logistics and underscores its relevance to foreign and defence policy. Next, after a brief historical account of logistics outsourcing, it gives a comprehensive explanation of why states today have chosen to outsource military logistics instead of doing it themselves. It then introduces three key debates around military outsourcing – whether it saves money, how decision-makers are affected by contractors, and the problem of the “revolving door”. The chapter concludes by considering the future of the outsourcing of military logistics, finding that outsourcing is not only here to stay because its driving forces persist, but that it is likely to accelerate and lead to the integration of public and private workforces in the defence

enterprise. The chapter draws primarily on evidence from the United States of America (USA) and the United Kingdom (UK) who have gone the furthest in outsourcing military logistics and have historically set standards that other countries eventually follow.

What is Military Logistics and Why Does it Matter?

We should first explain what we mean by military logistics. Military logistics is “the science of planning and carrying out the movement and maintenance of [air, sea, and land] forces” (NATO 1997: 1). Martin van Creveld gave equal importance to logistics and strategy in his seminal work *Supplying War*, writing that

“Strategy, like politics, is said to be the art of the possible; but surely what is possible is determined not merely by numerical strengths, doctrine, intelligence, arms and tactics, but in the first place, by the hardest facts of all: those concerning requirements, supplies available and expected, organization and administration, transportation and arteries of communication” (van Creveld 1977: 1).

This makes logistics a critical element of fighting power because it alone “determines what military forces can be delivered to an operational theatre, the time it will take to deliver that force, the scale and scope of forces that can be supported once there and the tempo (speed) of operations” (Uttley and Kinsey 2012: 401). But logistics is more than just the deployment and sustainment of military forces in wartime. Military logistics also includes the defence industrial and civilian supply base and must address the question of whether they are able to meet the needs of potential future military operations. Without a sound appreciation of logistics, scholars and practitioners alike run the risk of misunderstanding and – in the case of the latter – making grave errors in the application of the armed forces. Unfortunately, logistics is often neglected in favour of strategy and tactics; scholars would rather know about the ways of war (tactics,

the disposal of force) and the ends (strategy), but not the means (logistics) by which strategy and tactics are achieved.

Military logistics is thus central to the formulation of policy, strategy, and tactics as well as the conduct and outcome of war. This is why this chapter matters. Students of strategic studies, security studies, and international politics alike all need an appreciation of how governments generate military capability, including by and with contractors. This should also be at the centre of any policy or academic discussion about the use of military force today. After all, it is the military logistician who in the end is equipped to turn political objectives into reality, and is tasked with enabling each and every military deployment more generally.

Why, Where, and How is Military Logistics Outsourced?

Before examining its contemporary drivers, it is worth pointing out that outsourcing military logistics is not a new phenomenon. As Shouesmith points out, “civilian suppliers have featured on operations throughout history, often in the form of in-country agents” (Shouesmith 2010: 28). A temporary change from this practice occurred with the rise of nationalism at the end of the 18th century and the introduction of conscription through which governments became able to internalise functions that had previously been performed by contractors and thereby achieve greater military self-sufficiency. This internalization was seen as a military necessity as total war became more common in international politics. With contractors – unlike regular soldiers – under no moral or legal obligation to stay on the battlefield, European governments found that their survival in a total war depended on mobilising the male adult population to avoid the risk of being abandoned on the battlefield during an existential conflict (McNeill 1984). Nevertheless, the military still relied on contractors to undertake certain logistical and engineering tasks such as aircraft and helicopter maintenance, and this situation continued throughout the World Wars and the Cold War. For instance, the ratio of contractors to regular

US military personnel was 1:20 in World War One, 1:7 in World War Two, and 1:6 in Vietnam (U.S. Department of Defense 2014). It was however only with the introduction of neoliberal economics by Prime Minister Margaret Thatcher in the UK and President Ronald Reagan in the US at the start of the 1980s that outsourcing and core competency, not self-sufficiency, once more became the officially preferred way to supply military operations for some Western governments.

Today there are as many, and often more contractors working overseas supporting the military than there are soldiers. Most of these contractors provide logistics services. For instance, in Iraq, Afghanistan, and the Central Command (CENTCOM) area the number of contractors working for the US Department of Defense in recent years matched and often exceeded those of regular US military personnel, in the most extreme case standing at more than double the number of US troops in Afghanistan in late 2008 (71,755 and 32,500, respectively; Schwartz and Swain 2011: 2, 7, 10, 13, 26). The services these contractors provide range from more menial tasks such as basic life, facilities, and logistics support (for instance cooking, cleaning, barracks maintenance, or logistics planning, most famously the U.S. Army's LOGCAP contract) and transportation services (for instance of military equipment, regular mail, or food, water, and petrol) to hi-tech equipment maintenance, infrastructure support, or air-to-air refuelling. These support services represented 93.8 percent of contracted services provided in Iraq and Afghanistan at the time, compared to only 6.2 percent security contractors (U.S. Department of Defense 2008: 1-3). More generally, operations and support contract spending alone in the US exceeded procurement spending by 2012, being \$150 billion and \$100 billion, respectively, while support in the UK will represent 54% of the total costs of new equipment purchases from 2012 to 2022, standing at £86 billion and £73 billion respectively (Erwin 2012; UK National Audit Office 2013: 5).

Why was the decision taken to outsource military logistics far beyond the levels seen during the Cold War? First, ideas are hugely relevant for determining the propensity to outsource. Countries espousing a liberal approach to civil-military relations (as the US and the UK) rather than a republican vision (as for example Germany) have shown a greater willingness to outsource military responsibilities (Krahmann 2010: chapters 2 and 7). The drive to outsource the military supply chain is partly a consequence of the view of the market as more efficient than the military in providing services (Singer 2005: 66-70). States that generally support the private provision of public services and buy into the notion of “core competency” – i.e. the idea that organisations have only few unique capabilities and responsibilities that set them apart from competitors and that they must perform themselves – are more likely to outsource (Taylor 2004: 185-190).

There are also functionalist explanations that focus on broad social structures that shape the military as an organization. The increasing use of contractors in military operations is in part the consequence of the technological sophistication of modern weapons systems (Kinsey 2009: 19, 69-70). This had two quite distinct impacts on military force structure; first, at the individual level, soldiers become more specialized in the use of technically sophisticated weapon systems and are less likely to want to perform the type of mundane functions their predecessors once did; second, at the organizational level, militaries transforming into smaller core-competency armies focused on generating maximum firepower do not retain the manpower to perform many support functions. Moreover, the more quickly technological sophistication advances, the more likely it is that states will outsource support services in order to be able to maintain and operate new equipment (Taylor 2004: 191-193).

It is also vital to consider how central a country’s defence industry is to its wider security architecture, as this can affect a government’s willingness to support or even subsidise domestic companies, for example by letting contracts for goods and services. This is especially

important in the US (Erbel 2014), where the defence industry is considered to be “Democracy’s Arsenal” (Gansler 2011). Militaries thus now follow a similar trend as the private sector. Since the 1980s many armies decided to “concentrate on their ‘core competencies’ and outsource their other needs from other specialists” (Taylor 2004: 187; see also Kinsey 2014: 186-188). The outcome is a core-competency force structure where the military undertakes only a handful of the tasks a military operation entails, mostly those which one might call “inherently governmental” in that the task is so intimately related to the public interest that it must be performed by a government employee. The most obvious of these tasks is high-intensity warfighting, while in logistics this also includes those required in the early, “hot” phase of military operations.

Political cost calculations also affect the outsourcing of military logistics. Often governments outsource because it is more politically feasible than using regular troops. For example, some governments now cap the number of soldiers that can be deployed on an operation, to minimize the profile of the operation, to put as few uniformed troops in harm’s way as possible, or to avoid sensitive geopolitical situations. This is done to maintain public support for the operation (Shouesmith 2010: 28) and may explain why the UK and US militaries have outsourced their supply chain in Pakistan to local contractors – they know that deploying foreign troops to the country is politically impossible (Kinsey 2014: 8).

A highly relevant yet mostly ignored driver of logistics outsourcing is the gap between defence posture, hi-tech warfare, and the level of available resources. Differently expansive defence postures create different demands for deployability, equipment, and sustainability. Since the 1950s the US and the UK in particular faced a persistent gap between their expansive global defence political commitments, their demands for hi-tech weapon systems and military superiority, and the level of available resources. Both states turned to the market – first for inspiration, then for service provision – to bridge that gap (Erbel 2014: chapters 2 and 3). Today

it appears unrealistic for a government to be able to achieve even a minimum military global presence without the support of contractors (Taylor 2004: 193-196). Consequently, the gap between commitments, requirements, and resources appears to be widening in favour of the market. Militaries continue to lose critical skill sets to contractors, particularly in technological fields, as the armed forces continue to push for technological advances (the “Revolution in Military Affairs”) that mostly originate in the private sector. Not least because the companies retain the relevant intellectual property rights and thus the technological data for these new systems (from computers, to drones, to the newest fighter jets), new systems generally come with a sizeable contractor workforce “attached” for the training of soldiers in their use, their maintenance, and sometimes their operation. For instance, contractors conduct the take-off and landing of drones as well as repairs and upgrades to the systems for several Western militaries, which can involve 160 to 180 personnel to complete a 24-hour mission of a Predator or Reaper drone (Clanahan 2012). A less expansive defence posture and/or an acceptance of less than the most sophisticated equipment could therefore have alleviated some of the pressures that led to and sustained outsourcing.

Finally, it makes a significant difference how governments pay for war (Erbel 2014: chapter 3). In essence, if war-related expenses are covered by supplementary budgets (e.g. in the US) or by the Treasury (the UK), states are funding defence on the assumption of “peacetime”, regardless of how elusive “peacetime” may be. In these cases, governments are incentivized to reduce the standing army and outsource capability as much as possible to show that their “base budget” or peacetime budget is low. As pure combat functions are not outsourced even in an ideal-typical “core competency” army, this dynamic means that logistics is usually the first to be contracted out.

The preceding paragraphs underscore that logistics outsourcing is perhaps the most representative of the history, drivers, and trajectory of contemporary military outsourcing.

Most discussions about security contracting begin at the end of the Cold War, while – as we showed above – contemporary military outsourcing in the logistics sphere stretches back at least to the 1950s. Moreover, governments do not ultimately depend on the capabilities provided by armed contractors as even an ideal-typical “core-competency” army will always retain the knowledge of how to use force. They could thus use soldiers for these tasks, whereas they can no longer operate without technical support contractors (who also represent a much larger share of the industry). Moreover, it is reasonable to assume that security contracting may not have happened so swiftly (or at all) had governments not had decades of experience in drawing on the market for logistics support (Erbel 2014: chapter 6).

Debating the Outsourcing of Military Logistics

This section introduces three of the main debates about the outsourcing of logistics: whether outsourcing saves money, whether the dependency on contractors influences decision-makers, and the potentially negative influence of outsourcing on political decision-makers’ behaviour. While these are not the only debates on the topic, they are among the most important because they impact on the more general controversies relating to outsourcing, namely those surrounding one of the main arguments put forward in favour of outsourcing, the relationship between outsourcing, the national interest, ethics and the accountability and transparency of defence policy and military operations.

The debate around whether outsourcing costs or saves money is as old as outsourcing itself. There is no straightforward answer to this question and opinions are often sharply polarized. Usually both sides rely on the studies that have been conducted to test the assumption that outsourcing saves money. These studies come up with diametrically opposed results (U.S. General Accounting Office 1997: 4; Uttley 2005: 37; Krahnemann 2010: 112). Agreement therefore only exists on the fact that there is insufficient data and no agreed-on cost comparison

criterion to determine whether outsourcing generally has saved money or not, leaving us unable to make generalizations about the cost-efficiency of contracting against performing tasks in-house. To engage in this debate, there are several factors to consider, key among them being which function is being outsourced, where, and for how long.

The Project on Government Oversight (POGO), one of the main US watchdog NGOs, conducted one of the most detailed and systematic studies of the costs of contracting out military responsibilities (POGO 2011). They examined 35 different tasks in order to make a like-for-like comparison between contractor and federal government employee costs. In 33 of the tasks examined, government employees cost less than contractor sources, with the two remaining ones being groundskeepers and medical record technicians (POGO 2011: 17-18). Not only does the report highlight the importance of separating different tasks in order to make an informed estimate of whether outsourcing saves money, it also cites official reports that show that government agencies won 83 per cent of competitions against private sector companies. Projected cost savings from opening up certain tasks to the market are therefore not necessarily a function of business efficiencies but of competition more generally and often produced “in-house”. (POGO 2011: 8). It is also important to ask whether an activity being outsourced is being performed at home or on a deployed operation overseas, and by whom. On the one hand, the short-term provision of menial services by local nationals can be much cheaper than deploying Western government employees. On the other, hiring Western contractors for technologically sophisticated or security-related tasks overseas is often much more expensive than using Western government employees. (POGO 2011: 1; Commission on Wartime Contracting 2011). Sometimes, however, these are moot points. When the knowhow or intellectual property that is key to a contract is owned by private companies, outsourcing is not just an option, but a necessity if the government cannot or does not want to do without the capability. This is the case for example for operating, maintaining, and upgrading drones and

other aircraft. Situations such as these are becoming more frequent as industry increasingly owns technologies and intellectual property rights upon which governments depend (Erbel 2014).

Even in those instances in which industry providers are doubtlessly cheaper, we should not neglect the fact that companies are by their nature profit-seeking organizations. Savings could thus come from using poorly paid labourers or providing a low quality of service (Smith 2012). The industry also claims to be able to “hire and fire” employees more easily than the public sector and thus operate more cheaply. On one hand, this is another ethically questionable “advantage” as it relies on job insecurity of employees. On the other, questions arise whether this supposed advantage materializes, especially in hi-tech domains. A former manager of one of the largest logistics contracts in the US, the Logistics Civil Augmentation Program (LOGCAP), the late Mr Charles Smith cast doubt on the “hire and fire” argument. While ships were in dock at a facility in South Carolina, contractors conducted maintenance on its equipment before the ship was sent out again for another year. As the company was unable to find qualified personnel for the short timeframe during which ships were in dock and “firing” them for the year the ships were at sea, the government ultimately had to find new work for the company so that the company could keep the contract and its employees (Smith 2013). Falsely relying on the hire-and-fire argument can in fact make outsourcing more expensive because companies have to pay their employees even when there is no government work available. A final point to be made here is that some cost savings can actually be the result of shifts in budgets. When a responsibility is outsourced (medical care costs for contractors for instance) and taken off the military budget and shifted to another budget (from military health to general health in this case), the cost saving for the military is matched by a cost increase elsewhere. Ultimately the cost has to be paid for (by the taxpayer, or perhaps by the contractor) and the cost saving is thus merely a matter of reshuffling.

At the end of the day, therefore, more reliable and detailed data and especially agreed-upon cost-comparison criteria are needed in order to answer the central question about whether or not contracting is cost-effective. This is challenging because, by turning to private finance initiative programmes governments have made it generally more difficult for the public and parliamentarians to access the true cost of defence, not least because of the very long time span of support contracts (Krahmann 2012: 112). Former US Under Secretary of Defense for Acquisition Jacques Gansler, a respected expert and practitioner in this field, is leading an effort to develop valid cost comparison models that all stakeholders can agree to (Gansler et al. 2011).

Second, concerns also arise from governments' increasing dependence on contractors, especially regarding operational security and the degree to which contractors may influence and shape governments' decision-making processes. Operational security concerns the disclosure of sensitive information before it was meant to become public knowledge. The high level of public distrust of contractors is generally seen to be behind this fear. Outsourcing so far has presented no problems to operational security, not least because information is circulated to everybody – not just contractors – on a need-to-know basis and is contingent on holding a security clearance (Erbel 2014: chapter 6). Nonetheless, governments' dependency on contractors raises questions about their autonomy in decision-making. As Shouesmith (2013) notes, there is a “should” and a “could” aspect to decisions. In defence, the “should” asks, for instance, whether the government should embark on a military operation, while the “could” inquires whether the ability and capacity to do so exist. Military logistics evidently goes to the essence of such decisions. Shouesmith and industry representatives in the US all agree that industry is not part of the “should” decision, but can (and sometimes has to) come in immediately thereafter to determine the “could” (Shouesmith 2013). But can we really

divorce the two aspects from one another? Do capabilities not inform what governments perceive as achievable, maybe even as desirable?

Consequently, when the industry points out that certain capabilities are at risk of being lost if government stops investing in them, does this not have the (possibly unintended) consequence of somehow forcing the government to continue to use or at least maintain certain capabilities even if they do not currently “use” them but are hesitant about not having access to them in the future? In the UK, debates about whether and how to maintain a nuclear deterrent are perhaps the most extreme example of this conundrum. More generally, investments in new technologies for purely military use, such as autonomous surveillance and attack systems, cyber-warfare technologies, or new missile capabilities are made with an eye to future battlefields, often decades down the line. New technologies are also drawn mostly from privately owned corporations and – importantly for our purposes – entail decades-long logistics contracts that are becoming key components of the lifecycle of a defence system and central to the long-term investment strategies of defence companies. As a result, if governments wish to retain existing or develop new capabilities for the distant future, they have to invest in their maintenance and/or development today. According to a senior US defence official some budget requests are therefore “motivated by industrial base considerations” (Defense News 2014). It is important to note here that this is not about industry conspiring to “trick” governments to intervene in places just so they use their equipment or desire to buy new systems; governments should not be assumed to be naïve or fawning to industry in this way. It is rather about industry strongly affecting and informing the very structures of decision-making in such a way that governments’ strategic decisions become inseparable from the wellbeing of the defence industry. While governments therefore retain decision-making power and autonomy on high-strategic issues, certainly vis-à-vis their logistics contractors, we must remain cognisant of the

fact that this is strongly circumscribed by parameters set by and/or dependent on industry (Erbel 2014).

Governments' dependence on industry can also affect the incentive structure of state employees, encouraging them to treat companies favourably. This can occur not only to ensure a successful career within government, where outsourcing has become standard procedure and a good relationship with industry a necessity, but being perceived as "friendly" to industry can also facilitate passage through the "revolving door" after retiring from government service. Given that logistics is particularly manpower and money-intensive, this issue takes on considerable relevance as it affects a high number of people across government and on all levels. While exchanging personnel between government and industry doubtlessly has positive implications, ranging from giving people more choice and mobility in employment to ensuring that the state has access to the newest technologies, skills, and knowhow, there are also potential downsides. The most important risk is that superiors may suppress dissent and criticism of industry and contractors within their ranks. The aforementioned Mr Smith, for instance, had worked as a LOGCAP manager in the U.S. Army for decades but was eventually removed from his position (together with others) for confronting the company holding the contract over what he and some of his co-workers considered were unreasonable costs being charged to the Army (Smith 2012).

Conclusion

This chapter has shown that logistics outsourcing, often put in second place in the academic literature, is the most representative and possibly important domain that has undergone contractualization in the past decades in many armed forces, as it is particularly representative of the causes, process, and likely future of military outsourcing generally.

As far as the causes of the privatization of military logistics are concerned, they are likely to stay relevant well into the future. The shifting of manpower to the private sector to achieve core-competency, the ownership and development of knowhow and technologies by the private sector, and the prevalence of market ideology have progressed to such an extent that many military forces will be unable to deploy without contractor support. Importantly, this is not the case with armed contractors providing security as they, unlike logisticians, do not offer the military capabilities that it does not have (no matter how narrow the “core” becomes). The UK military in particular has both recognized this and seized upon it. The “Total Support Force” (TSF) now blends public and private actors and organizations into a joint support force for the armed forces. This exemplifies how the merger of public and private in the military logistics sphere is not only here to stay but expanding and formalizing considerably. In the US there are similar plans, the “Joint Logistics Enterprise”, which is intended to use capabilities from military, civilian, and industry sources.

Even more fundamentally, the future will likely see continued outsourcing because the strategic outlook and budgeting assumptions are unlikely to change. As long as foreign and defence political objectives and commitments exceed the available resources, and as long as the US and UK militaries in particular wish to operate equipment that is the most sophisticated on the globe, these two governments are likely to continue to look to the market for solutions, at least for so long as the market provides the required services and capabilities. Only abject failure in one or more of these fundamental driving forces could lead to a radical reappraisal of the feasibility of drawing on contractors to enable military capability.

We hope that future research will therefore direct less attention to the, admittedly “sexier”, activities and exploits of armed security contractors and more to logistics. We think this is especially important when making arguments about the big picture of military contracting. In this chapter we hope to have outlined the long causal links that extend from

high political objectives all the way down to who fulfils some of the most basic, menial tasks in the defence enterprise. Logistics is the backbone of military strategy, and its contractualization may just be the backbone of military outsourcing writ large.

Suggested Readings

Erbel, M. (2014) *Contractors and Defence Policy-Making: Examining the Drivers, Process, and Future of Military Outsourcing*, PhD dissertation, King's College London.

Gansler, J.S. (2011) *Democracy's Arsenal: Creating a Twenty-First Century Defense Industry*. Cambridge, MA; London: The MIT Press.

Kinsey, C. (2014) "Transforming Supplying War: Considerations and Rationales behind Contractor Support to Future UK Overseas Military Operations in the 21st Century", *International Journal* 69(4): 1-16.

Smith, C.M. (2012) *War for Profit: Army Contracting vs. Supporting the Troops*. New York, NY: Algora Publishing.

Taylor, T. (2004) "Contractors on Deployed Operations and Equipment Support", *Defence Studies* 4(2): 184-198.

Uttley, M. and C. Kinsey (2012) "The Role of Logistics in War", in J. Lindley-French and Y. Boyer (eds.) *The Oxford Handbook of War*. Oxford: Oxford University Press: 401-416.

Bibliography

"QDR Emphasizes Cyber, Science and Technology", *Defense News* (4 March 2012).

Clanahan, K.D. (2012) "Drone-Sourcing? United States Air Force Unmanned Aircraft Systems, Inherently Governmental Functions, and the Role of Contractors", *Federal Circuit Bar Journal* 22 (1).

Erbel, M. (2014) *Contractors and Defence Policy-Making: Examining the Drivers, Process, and Future of Military Outsourcing*, PhD dissertation, King's College London.

Erwin, S. S.I. (2012), "Defense Industry Targets \$150B Weapons Maintenance Market", *National Defense Magazine*, available at:

[http://www.nationaldefensemagazine.org/archive/2012/July/Pages/DefenseIndustryTargets\\$150BWeaponsMaintenanceMarket.aspx](http://www.nationaldefensemagazine.org/archive/2012/July/Pages/DefenseIndustryTargets$150BWeaponsMaintenanceMarket.aspx) (accessed 3 December 2012).

Gansler, J.S. (2011) *Democracy's Arsenal: Creating a Twenty-First Century Defense Industry*. Cambridge, MA; London: The MIT Press.

Gansler, J.S., W. Lucyshyn, J. Rigilano (2011) *Toward a Valid Cost Comparison of Contractor and Government Costs*. College Park, MD.

Kinsey, C. (2014a) "The Rise of Contractors in 21st Century Warfare", in The Emirates Center for Strategic Studies and Research (ed.) *The Future of Warfare in the 21st Century*. United Arab Emirates: ECSSR.

----- (2014b) "Transforming Supplying War: Considerations and Rationales behind Contractor Support to Future UK Overseas Military Operations in the 21st Century", *International Journal* 69(4): 1-16.

Krahmann, E. (2010) *States, Citizens and the Privatisation of Security*. Cambridge: Cambridge University Press.

McNeill, W.H. (1984) *The Pursuit of Power: Technology, Armed Forces, and Society Since A.D. 1000*. Chicago: Chicago University Press.

Project on Government Oversight (2012) *Bad Business: Billions of Taxpayer Dollars Wasted on Hiring Contractors*. Washington, D.C.: Project on Government Oversight.

Schwartz, M., and J. Swain (2011) *Department of Defense Contractors in Afghanistan and Iraq: Background and Analysis*, Congressional Research Service, Report R40764, Washington, D.C.

Shouesmith, D. (2010) “Contractorisation: Opportunity or threat?”, *Military Logistics International* 5(2): 28-30.

Shouesmith, Maj. Gen. (ret.) D., (2013) Interviewed by M. Erbel and C. Kinsey [personal], Defence Academy of the United Kingdom, Shrivenham, 13 June 2013.

Singer, P.W. (2003) *Corporate Warriors: The Rise of the Privatised Military Industry*. Ithaca, NY: Cornell University Press.

Smith, C.M. (2012) *War for Profit: Army Contracting vs. Supporting the Troops*. New York, NY: Algora Publishing.

Smith, C.M. (2013) Interviewed by M. Erbel [telephone], 25 April 2013.

Taylor, T. (2004) “Contractors on Deployed Operations and Equipment Support”, *Defence Studies* 4(2): 184-198.

UK National Audit Office (2013), *Equipment Plan 2012 to 2022*, Report by the Comptroller and Auditor General, HC 886, Session 2012-13, The Stationery Office, London.

U.S. Department of Defense, Office of the Deputy Assistant Secretary of Defense (Program Support) (2008), “CENTCOM Quarterly Contractor Census Report, November 2008”, available at http://www.acq.osd.mil/log/PS/archvd_CENTCOM.html (accessed 15 March 2015).

U.S. Department of Defense, Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) (2014), “Contingency Contracting throughout U.S. History”, available at: <http://www.acq.osd.mil/dpap/pacc/cc/history.html> (accessed 4 December 2014).

U.S. General Accounting Office (1997), *Outsourcing DOD Logistics: Savings Achievable but Defense Science Board’s Projections are Overstated*, GAO/NSIAD-98-48. Washington, D.C.: General Accounting Office.

Uttley, M. (2005) *Contractors on Deployed Military Operations: UK Policy and Doctrine*. Carlisle, PA: Strategic Studies Institute.

Uttley, M. and C. Kinsey (2012) "The Role of Logistics in War", in J. Lindley-French and Y. Boyer (eds.) *The Oxford Handbook of War*. Oxford: Oxford University Press: 401-416.