

ABSTRACT for....

## **INNOVATION AND THE CHANGING DEFENCE INDUSTRIAL BASE**

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### **ABSTRACT**

Evolutionary economics emphasises the importance of diversity and competition to the innovation process.<sup>1 2</sup> This paper will consider the implications of consolidation on the nature of innovation in the post Cold War defence industry using the United Kingdom as a case study.

The consequences of industry consolidation on innovation have been the subject of considerable academic and policy attention in the United States. The U.S. defence industrial base underwent a dramatic merger driven process of consolidation during the 1990s that led to the emergence of a small number of very large prime contractors.<sup>3 4 5</sup> Kovacic and Smallwood note how many of these mergers featured acute tensions between claimed efficiencies (in terms of cost savings) and the weakening of competition as a procurement discipline. They argue that sustaining design innovation

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<sup>1</sup> Schumpeter

<sup>2</sup> Metcalfe, JS

<sup>3</sup> James, AD

<sup>4</sup> James, AD

<sup>5</sup> James, AD

(rather than cost and price effects) should be regarded as the most important reason for preserving contractor rivalries commenting that:

“The main potential hazard of mergers is the danger that technological competition will diminish, and that specific technologies may become entrenched as the one or two remaining suppliers freeze out innovative design approaches that threaten their vested interests or defy conventional wisdom”<sup>6</sup>

Birker et al consider the implications of consolidation on competition and innovation in the U.S. fixed-wing military aircraft industry and conclude that...<sup>7</sup>

King and Driessnack argue that policy makers may be better served by focusing on innovation within the supply chain rather than seeking to sustain competition amongst prime contractors. In their view, ensuring that work is delegated to appropriate tiers of the supply chain will help sustain competition and innovation while prime contractors can focus on their core capabilities in systems integration.<sup>8</sup>

Indeed, there are those who question whether competition within the defence industry does indeed stimulate innovation. Mark Lorell, for instance, argues that innovation in combat aircraft has occurred at times of increased demand,

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<sup>6</sup> Kovacic, WE and Smallwood, DE (1994). “Competition policy, rivalries, and defense industry consolidation”. *Journal of Economic Perspectives*. 8 (4): 91-110.

<sup>7</sup> Birkler, J, Bower, A, Drezner, J, Lee, G, Lorell, M, Smith, G, Timson, F, Trimble, W and Younossi, O (2003). *Competition and Innovation in the U.S. Fixed-Wing Military Aircraft Industry*. RAND: Santa Monica, CA.

<sup>8</sup> King, DR and Driessnack, JD (2007). “Analysis of competition in the defense industrial base: an F-22 case study”. *Contemporary Economic Policy*. ?? (??): ???-???

emergence of new component technologies and significant changes in government requirements.<sup>9</sup>

The situation in Europe has always been different to that in the United States. The size of national procurement budgets has always meant that individual European governments have struggled to maintain multiple domestic competitors. Indeed, David Mowery notes that defence R&D and procurement has gone to a few (sometimes state owned) national champions rather than a diversity of companies as in the United States.

Defence industry consolidation has been driven by the potential for achieving economies of scale and learning and gains from reducing duplication of R&D. Hartley observes that changes in the market trading environment through increased competition and market size might have long-run benefits on innovation and technical progress but these dynamic benefits are extremely difficult to quantify - and have been less important in European thinking.<sup>10</sup>

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<sup>9</sup> Lorell, M (2003). *The U.S. Combat Aircraft Industry, 1909-2000*. RAND: Santa Monica, CA.

<sup>10</sup> Hartley, K (2006). "Defence industrial policy in a military alliance". *Journal of Peace Research*. 43 (4): 473-489.