



The Economics of GE/Honeywell – Part 2: Foreclosure via “Share Shifting”

In our previous *Competition Memo* we discussed “mixed bundling”, a major strand of the European Commission’s economic argument in its recent decision to prohibit the acquisition of Honeywell by General Electric (GE). This memo outlines the second major element in Commission’s argument: the theory that the merger could have caused market foreclosure through the combination of Honeywell with GE’s aircraft leasing arm, GE Capital Aviation Services (GECAS).

This second strand is similar to the first in that both arguments were heavily reliant on novel economic theories presented by complainants, rather than more conventional assessments of product overlaps and vertical integration. But in at least one sense, the Commission’s foreclosure theory on GECAS is even more extraordinary than the mixed bundling theory: a huge competitive impact – leading to the foreclosure of Honeywell’s competitors from their markets – is claimed to arise from a player with a market share that would normally be regarded as *de minimis* (5–10%). So how did the Commission come to this striking conclusion? At the heart of the Commission’s argument lay the notion that GECAS has unique capabilities which could “tip” aircraft components markets in favour of GE and Honeywell.

The market position of GECAS

GECAS is one of the world’s largest aircraft leasing companies. It provides various forms of finance to airlines, including leasing of commercial aircraft which GECAS has purchased itself. These “speculative purchases” of aircraft account for a minority of GECAS’s activities, the bulk of which take the form of “secondary volume” financing – i.e. financing of aircraft which have been selected and purchased by the airline.

The demand side of the overall market for commercial aircraft is relatively fragmented. GECAS is one of the biggest buyers in this market, but accounts for under 10% of annual aircraft orders by volume over recent years, and around 6% by value. As part of the GE group, GECAS has a policy of selecting only engines produced by GE (or GE joint ventures) for its own purchases whenever available.¹ The Commission’s theory about GECAS centred on this “GE-only” policy. In particular, the Commission argued that GECAS would extend the policy to Honeywell products (avionics and other aircraft components) after the merger, and that this would foreclose Honeywell’s competitors.

The Commission’s foreclosure theory

The fact that GECAS purchases aircraft, which in turn contain components of the type produced by Honeywell, means that the merger would have created a vertical connection – albeit an indirect one – between GECAS and Honeywell. But conventional vertical foreclosure concerns (i.e. the possibility that GECAS could force Honeywell’s competitors out of the market by buying only Honeywell products) could not conceivably arise because of the very small share of aircraft purchases accounted for by GECAS. Instead, the Commission relied on a new theory, specific to the case, which was developed by a complainant.

The theory applies to equipment which is “sole-sourced” by the airframe manufacturer² – i.e. where the airframer selects a particular component for the airframe rather than giving airlines a choice. This is the case for some but not all of the components

produced by Honeywell.³ The theory relies on the “gatekeeper” role of the airframer in choosing only one manufacturer to supply each sole-source component. According to the Commission, GECAS’s post-merger “bias” towards Honeywell equipment would give airframers an irresistible incentive to specify only GE/Honeywell components for any sole-sourced equipment, and hence squeeze competing component suppliers out of the market – despite GECAS’s small share of aircraft purchases.

Engine choice and “share shifting”

The Commission’s foreclosure theory was based primarily on an argument about the effect of GECAS’s existing GE-only policy on the aircraft *engine* market, and then extended the conclusions from this argument to the post-merger combination between GECAS and Honeywell. The starting point for the argument was the claim that the GE-only policy must impose a cost on GECAS and hence reduce the profitability of its leasing business.

From this initial premise, it was then concluded that GECAS must expect to increase profits for GE’s engine business by its GE-only policy, in order to justify “sacrificing” leasing profits. Hence, the argument continued, GECAS must be able to *increase GE’s share of engine sales*. In other words, GECAS must be able to “persuade” airlines which would not otherwise have done so to accept a leased aircraft powered by a GE engine. This supposed “share shifting” ability in favour of GE lies at the heart of the Commission’s theory on GECAS.

In cases where the airframe manufacturer selects a sole-source engine for the airframe (a situation which applies mainly to smaller commercial aircraft) the share shifting theory predicts that the airframer will prefer to choose a GE engine, because the share shifting actions of GECAS will supposedly mean that aircraft sales will be higher than if a rival engine is chosen.⁴

Extension to Honeywell products

The Commission went on to argue that the GE-only policy would be extended to Honeywell products after the merger, allowing these components to benefit from GECAS’s supposed share shifting ability. Indeed, according to the Commission, this mechanism would be even more effective in relation to the equipment offered by Honeywell than it is for engines, as airlines supposedly have weaker preferences between suppliers for such equipment than they do for engines. Also, these products are more likely than engines to be sole-sourced on an airframe.

The claimed ability of GECAS to shift share was predicted by the Commission to give GE/Honeywell an unmatched advantage in competitions for sole-source equipment. While rivals might cut the price of their equipment in response, they would be unable to match GECAS’s ability to offer the airframer increased sales of aircraft if GE/Honeywell components were chosen. The profits which the airframer would earn on these extra aircraft sales would far exceed any price cuts that rival equipment suppliers could offer on the (relatively low-value) equipment in question. Hence, according to the theory, GE/Honeywell would be able to win sole-

1 This policy does not apply to secondary volume, where GECAS provides finance for aircraft irrespective of the owner’s choice of engine.

2 Airframers are the builders of aircraft – Boeing, Airbus, etc.

3 In general, airlines tend to have more equipment choices on larger aircraft than on smaller aircraft.

4 The Commission also claimed that GECAS acts as a “launch customer” (placing orders for new aircraft models at the development stage), amplifying its influence on airframers’ equipment choices. However, GE and several airframers produced evidence to show that GECAS plays no significant role as a launch customer.

source equipment competitions even if it demanded higher prices than competitors, or offered inferior products.

The argument has an element of “tipping” about it. GE’s integration with a buyer of a small share of aircraft is predicted to confer a huge competitive advantage. The key to the argument is therefore not that GECAS is big, but that it is *unique*: according to the theory, GE is the only supplier of aircraft components which is able to shift share and hence influence airframers’ decisions, because it is the only supplier vertically integrated into aircraft purchase. Because of the all-or-nothing nature of sole-source equipment choices, the theory predicts that this would foreclose rival engine manufacturers from the market.

Problems with the theory

The theory has a number of important flaws.

- *Non-equilibrium analysis*

From an economic point of view, the most fundamental weakness is that the theory is not based on an equilibrium analysis – i.e. it does not fully take other market players’ responses into account. In fact, there are a number of obvious ways in which other players can (and do) counteract GECAS

- The theory ignores the responses of rival *leasing companies*, which can be expected to offset GECAS’s pro-GE bias at least partly. A natural competitive response by these companies would be to seek differentiation by leaning towards non-GE powered aircraft. And if GECAS offers only GE engines then the demand facing other leasing companies will necessarily be skewed away from GE engines compared with the market as a whole. This is exactly what we see in practice: since GECAS began ordering large numbers of aircraft, other leasing companies’ engine orders have shifted away from GE.

- Rival *equipment manufacturers* can respond in various ways. If affiliation with a leasing company were as valuable a competitive tool as the theory claims, one would expect rival equipment manufacturers to integrate into leasing. There are numerous leasing companies which would be available for GE’s and Honeywell’s rivals to acquire, but there have been no significant moves in this direction by competitors.⁵ In addition, there is no reason why GECAS should be the only player in the market capable of influencing airlines’ choices. All equipment manufacturers have sales forces and offer inducements to airlines.

- *No basis for assuming “GE-only” sacrifices profits*

The theory starts from the premise that a policy of equipment orders which does not reflect the market as a whole means a sacrifice of leasing profits. But this assumption has no basis in either economic theory or reality. In fact there are many reasons why GE’s leasing subsidiary would want to specialise in GE engines, none of which have anything to do with a desire to cross-subsidise engine sales. Distribution arrangements of this kind are common in many markets. And if we look at the engine ordering patterns of aircraft leasing companies, we find that *all* are “biased” to a greater or lesser degree, in the sense that their patterns of choice do not exactly mirror the overall engine market, and in many cases diverge substantially.

- *“Honeywell-only” policy is not credible*

The Commission’s theory simply assumes GECAS’s current GE-only policy will apply to Honeywell products post-merger. But there is an important difference which it ignores: while each aircraft only has one set of engines (and a GE engine is available on the majority of platforms), it requires a large number of different components of the type that Honeywell produces. If the logic of the GE-only policy is carried over to Honeywell products, this would mean that GECAS would buy only aircraft on which Honeywell supplies *every single component* it could possibly offer. This would effectively end GECAS’s ability to make speculative

purchases of existing aircraft platforms, as none of the major platforms are strictly “all-Honeywell”. And even on future platforms, it would simply not be credible for GECAS to threaten never to buy an aircraft on which a non-Honeywell choice has been made for some components, if the aircraft was attractive to leasing customers. The Commission did not consider this major complication in applying the “GE-only” argument to Honeywell products.

Empirical evidence?

The theoretical weaknesses of the share shifting foreclosure theory are confirmed by looking at empirical evidence. The only way to test the theory empirically is to look at whether GECAS has in the past been able to influence the market for aircraft engines in the way the theory predicts.

Although the Decision suggests that there might be evidence of share shifting in relation to aircraft engines, in fact it offers no such evidence – merely the observation that GE’s share of engine sales to leasing companies (a minority of total engine sales) has increased since GECAS began making substantial aircraft purchases, while GE’s share of engine sales to airlines has decreased. This does not give any information about the existence or otherwise of share shifting.

Moreover, as noted above, the evidence actually shows that other leasing companies have adopted an anti-GE bias in their engine orders since GECAS became active, which has partially or entirely offset any potential share shifting which GECAS might otherwise have achieved.

Perhaps even clearer evidence against the theory is provided by the recent behaviour of GE’s rival engine manufacturers. The theory predicts that they should withdraw from competitions for sole-source engines on platforms as a result of GE’s supposed unmatched advantage. However, the reality is that they have continued to invest large sums in developing new engines, including for platforms where the expectation is that they will be equipped with a sole-sourced engine. The available empirical evidence therefore offers no support for a share shifting theory.

Conclusion

The Commission’s theory in relation to GECAS is based not on conventional merger analysis but an argument developed specifically for this case. The claim was that there are certain unique features of the market, and of GE’s position in the market, which would affect outcomes in a way not normally expected on the basis of a minor, indirect vertical combination such as the combination between GECAS and Honeywell. The smallness of GECAS’s market share as a buyer of aircraft was then dismissed as irrelevant because of these special features.

But this approach sets a worrying precedent. Merger control typically begins with structural assessment of markets – i.e. consideration of market shares in the various affected markets. This is only a part of the overall competitive assessment but it serves an important role as a *filter*, to weed out cases where there can be no serious competition issues. The presumption is that vertical foreclosure is extremely unlikely where 90-95% of the market is accounted for by buyers other than the merging parties. For this presumption to be overturned, compelling evidence of a specific risk to competition should be required.

In our view, the evidence supporting the GECAS foreclosure theory did not meet this demanding test. The US authorities shared this view and were not convinced by the theory: they analysed precisely the same arguments and rejected them. In this light, the Commission’s willingness to rely on the foreclosure theory as part of its reasoning in prohibiting the merger is surprising. Like the other main strand of the Commission’s case – the mixed bundling argument – it raises important questions about what the Commission considers to constitute adequate proof in its merger decisions.

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⁵ One minor exception to this is Rolls Royce, one of GE’s competitors in aircraft engines, which has a 50% stake in a small leasing company.

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