

Boeing 737 MAX and the cost of a grounded fleet

April 4 2019, by Volodymyr Bilotkach



A Lion Air 737 MAX crashed in October 2018. Credit: Gusti Fikri Izzudin Noor / flickr, CC BY-NC-ND

Boeing's 737 MAX fleet has been grounded by airlines around the world for the last three weeks. First flown commercially in 2017, the 737

MAX is the fourth generation of Boeing's 737 series and it is actually not unusual for new aircraft to go through technical issues in the early years of operation. Both Airbus' A380 airliner and Boeing's Dreamliner were grounded in the past due to technical problems (the A380 had [engine trouble in 2010](#) and the Dreamliner had [battery issues in 2014](#)). But the current situation is different on several fronts and could prove costly for Boeing.

First, the scale of the problem is much larger. Only a handful of A380s and Dreamliners were in operation at the time their problems surfaced. Boeing has already delivered nearly 400 of its 737 MAX series [aircraft](#) and [has orders for about 5,000 more](#). This is a lot compared to rival Airbus, which has [delivered just 234 A380 aircraft since 2007](#), and the [1,400 orders of Boeing's Dreamliner since 2004](#) (around 800 have been delivered already).

Second, previous cases did not involve fatal crashes – although there have been a couple of serious incidents, such as [Qantas flight 32 in 2010](#). In that case, the Qantas plane's A380 aircraft suffered engine failure but nobody was hurt in the emergency landing that ensued.

The crash of Ethiopians Airlines Flight 302, however, which led to the grounding of 737 MAX planes around the world, killed 157 people. The Lion Air 737 MAX that crashed in October 2018, and which reports indicate had similar issues to the Ethiopian Airlines tragedy, killed 189 people.

Now [serious questions are being asked](#) of Boeing's software and the automated flight control feature that investigators suspect caused the two [fatal crashes](#). Boeing has promised a software fix for this, but its roll out [is delayed](#) and [airlines](#) around the world are keeping their 737 MAX planes grounded.

Costly situation

This is a costly situation for the airlines. If we assume that an airline operating in the US uses its 737 MAX aircraft for three round trips a day and carries 145 passengers on an average flight, we can estimate some of the losses involved.

According to the [US Department of Transportation](#), the average airfare in the US is US\$343.28. Under the assumption that this is for a round trip, a 737 MAX aircraft will generate around US\$150,000 of revenue for the airline per day. Of course, about 10-15% of this is taxes, but then the US transport department data does not account for any revenues the airlines may get for ancillaries such as checked luggage.

Southwest Airlines – the largest 737 MAX operator in the US – currently has 34 of these aircraft grounded. This means that a day of all these planes not flying might be costing the airline as much as US\$5m in lost revenue.

For all the 737 MAX planes now grounded, the total revenue airlines are losing per day might be close to US\$60m. And these calculations only account for the potential lost revenue – airlines are bound to bear [additional costs](#) associated with the mitigation planning involved, rescheduling, and potential longer-term loss of business due to routes being suspended as a result.

Of course, the US\$60m figure above is to be viewed with caution. It may not be entirely appropriate to extrapolate the figures for the US market to calculate a number for the rest of the world, and at best one tenth of the above amount is profit. Nevertheless, we can easily foresee Boeing facing lawsuits from the airlines amounting to hundreds of millions of dollars, should the planes remain grounded for any extensive time period. There is no international convention to limit the amount of

liability that [aircraft manufacturers](#) may face if they are found to be at fault.

A manageable amount?

Hundreds of millions of dollars may seem like a manageable amount for a company that earned [US\\$10.5 billion profit in 2018 alone](#). But longer term costs to Boeing due to lost business will likely be in the billions of dollars. For instance, the order of 50 planes, which was [cancelled by Indonesian airline Garuda](#) was worth US\$4.9 billion.

Boeing's long-term viability as a manufacturer is not really in doubt, however. Airbus forecasts that the global commercial aviation industry will require 37,400 [new aircraft over the next 20 years](#) – and Airbus cannot build all of those planes alone. Even with the entry of Comac – the nascent Chinese aircraft manufacturer – there will still be a lot of market left for Boeing, which currently shares the market for narrow body aircraft nearly equally with Airbus.

The US manufacturer will no doubt learn lessons from all this. The 737 MAX disasters may remain a dark spot in Boeing's history, and a cautionary tale for the future. But ultimately, it is impossible to put a price on the lives of the 346 victims of the two recent crashes, as well as the pain and suffering inflicted on their loved ones.

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