

Actuarial analysis of warship lifespan

Problem

MBDA is a European Prime Contractor for guided weapon systems. In order to plan its portfolio of products for future Domestic and Export markets, information is needed on major platform life expectancy. However, publically available data on platform Out of Service Dates (OSD) is neither available or particularly reliable for many nations.

Solution

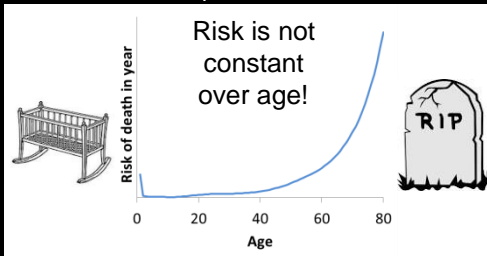
Analysis of historical data provides a means of estimating major platform expected lifespan by how long their predecessors have been in service.

An actuarial analysis

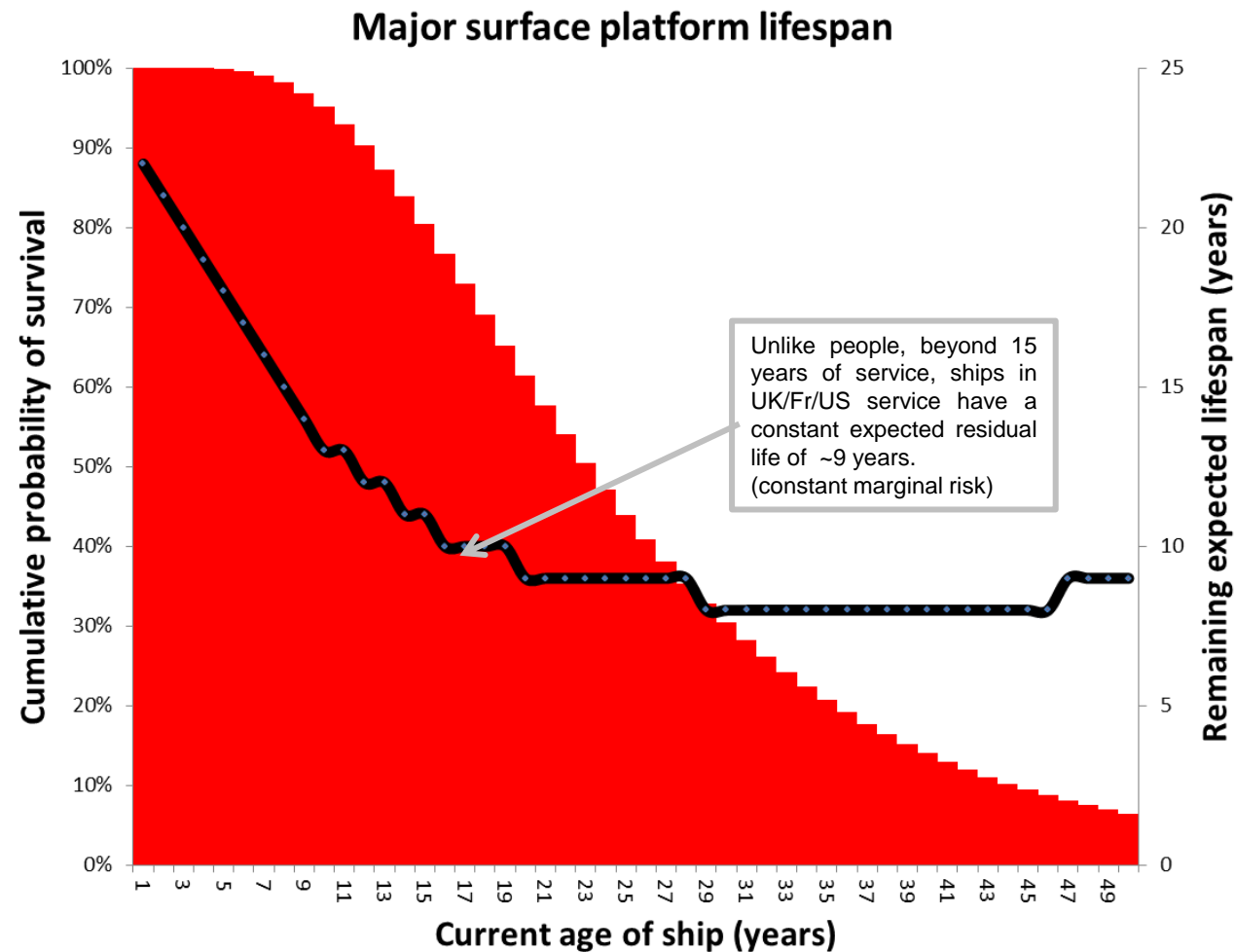
The analysis used modified actuarial techniques to generate survival tables for major warships (and other systems). These techniques properly control for members of the population still alive (in active service) at a given age, and allow a spread of uncertainty in OSD to be represented.

System lifespan and your pension

The risk of death over a person's lifetime is not constant. Pricing of this changing risk is the basis of the insurance and pensions industries.



Likewise, given a warship has survived for a certain number of years, we want to determine how much longer it can be expected to remain in service.



Warship end-of-life

Scrap & reserve

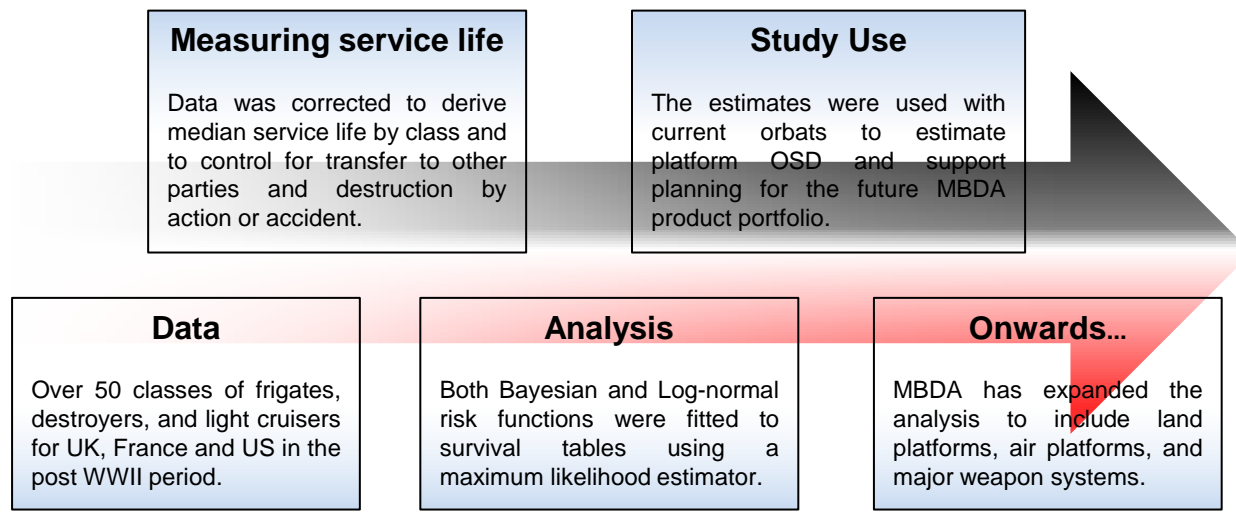
The most common fate of warships beyond OSD is to be decommissioned and scrapped or "rusting in pieces".

Sale & transfer

Many warships are sold or transferred to allied nations. This also counts for OSD purposes, though the ship may go on to serve for several more decades.

Action & accident

A minority of systems are destroyed in action or lost in accidents. This reduces the median life of vessels in class, and so effects OSD estimates, but is rare.



Questions? Suggestions?
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