II. INTENSITY: ACTIVITIES AND OUTPUTS IN THE SPACE ECONOMY

17. Insurance market for space activities

Although launching satellites appears to be a routine operation to the general public, there are still major risks involved. A branch of the insurance sector specifically covers the commercial space sector’s operations. The main risks covered still tend to be a failure at launch or mechanical troubles for large commercial telecommunications satellites. In addition to launch and deployment failure, space debris and solar storms pose collision and damage risks for satellites. The insured values usually cover the satellite’s replacement costs and/or the resulting business interruption.

In late 2013, there were around 205 insured satellites in orbit, of which 185 were in geo-synchronous orbit (GSO). The total insured value represented about USD 24 billion (XL, 2013). Every year, there are on average 70-80 launches worldwide, of which 30-40 are insured, carrying 20-25 GSO satellites and 15-30 low-earth orbit satellites. Average insured value for a satellite in low-earth orbit is approximately USD 40 million with an operational lifespan of five years, while the more costly GSO satellites (USD100-400 million insured value) have an operational lifespan of about 15 years (Allianz, 2012). A dual launch may be insured for up to USD 750 million. Annual premiums average between USD 750 million and USD 1 billion (XL, 2013).

The number of satellite failures in a given year has dropped in the last decades, but the average claim per loss has gone up from USD 38 million in the mid-1990s to USD 116 million in 2013, due to the increased size and complexity of telecommunications satellites. For instance, 2013 may be the first money-losing year for the insurance industry since 2007, with reported premiums of USD 775 million and possibly more than USD 800 million in claims.

Commercial suborbital flights and space tourism are not covered by any existing insurance regime. The few paying space tourists to the International Space Station have so far taken out personal accident insurance. As suborbital vehicles transporting paying customers on the edge of space (not entering into a full orbit) are to start operations in 2014-15, insurance issues will need to be addressed.

Sources


17. Insurance market for space activities

17.1. Space insurance annual premiums and claims
USD billion, 2002-13

Source: Adapted from XL Insurance, 2013.

17.2. Insured losses by phase of mission

Source: Adapted from XL Insurance, 2013.