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The Credit Crisis: No Escape in Space

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The already significant and expanding credit crisis in the United States has commanded global attention and renewed awareness of the fact that credit is the essential engine of the global economy.

The deterioration of, and contraction in, the credit markets has a wide-ranging, visible impact, touching every sector of the economy. That essential relationship is particularly evident in the space industry which is critically dependent on periodic large infusions of capital funding, procured under reasonable terms and conditions, for sustained maintenance and growth. Although the vulnerability of the commercial space industry to unfavorable credit market conditions may be more intuitively obvious, government programs will also suffer significantly if substantial funding is diverted to meet other urgent national needs.

The approximately \$700 billion recovery program being proposed to stabilize U.S. financial markets will put significant pressure on funding of es-

tablished government programs for years to come.

In previous cycles of challenging commercial market conditions, government programs were often temporarily expanded to fill the 'growth' gap. Similarly, in times when governmental spending was curtailed, commercial operators were often able to generate growth in their sector. Current conditions not only presage unprecedented funding difficulty for both government and commercial programs in the near-term but also fall against a most unusual industry backdrop of historically high utilization for commercial satellites in parallel with greater than usual Department of Defense reliance on commercial satellite capacity.

In short, a prolonged period of constrained credit could quickly put pressure on sensitive national security capabilities.

A brief retrospective may be useful to summarize the sensitivity of the space industry to unfavorable credit cycles. Launch activity, which was largely the province of government through the 1980s, has been led by commercial industry since the 1990s and, as such, offers a valuable indicator of industry health. In 1998, the Federal Aviation Administration's Commercial Space Transportation Advisory Committee forecast of launch demand projected the need for approximately 85 launches overall for 2001, including 38 geostationary (GSO) launches. Following the deterioration of the telecom market which underlies so much of the commercial satellite industry and the related

credit market conditions, the number of actual commercial GSO launches in 2001 was less than half that — only 16.

In fact, the dramatic contraction of the market in 2001, particularly in relation to projected growth levels and the subsequent time required for growth in the industry to make a rebound holds important lessons for the current situation.

The level of commercial launch activity remained virtually static from 2001 through 2005, with modest growth visible from 2005 to 2007 when the GSO launch levels returned to those seen pre-2001. This is consistent with the more optimistic growth rates for launches that now are being forecast for 2008 through 2016. The same general trends can be noted for the total number of transponders put into orbit on those launch vehicles. The total number of transponders (36MHz equivalents) added per year dropped dramatically from 717 in 2000 to only 386 in 2001 with totals only gradually increasing again over the following five years.

Assuming that today's credit crisis requires at least an equal multiyear recovery period, prior to a return of the readily available financing at attractive rates necessary for most industry plans to be implemented, it is not unlikely that industry will need to significantly defer the current optimistic and robust capital programs aimed at renewing satellite fleets on an optimal schedule and introducing technical improvements.

The industry's recent modest growth rates and historically

high utilization rates — an average of approximately 80 percent overall, with utilization rates approaching 90 percent in key regions — now coincide with growing commercial and governmental, especially military, demand for increasingly scarce resources. Those conditions make it highly likely that increased pressure for additional space assets will be placed on government programs at the very time when funding for those government programs may well be static or curtailed to fund other urgent national needs.

Overall military use of commercial satellite capacity has been consistently increasing since the Gulf War in the early 1990s. The current global military requirements and advanced technologies such as unmanned aerial vehicles and increased use of high-definition remote sensing data for strategic campaigns have continued to fuel that growth. During the past five to 10 years, military users have been able to meet the dramatically increased demand through commercial satellite capacity. It has been fortunate that commercial capacity was available in sufficient quantity and with adequate deployment flexibility during this period as these demands have far outstripped existing military satellite capacity. Even as new military satellite capacity is being launched, it is well recognized that extensive use of commercial capacity for military needs will still be required but, again, putting this capacity in orbit will require capital funding from the now

very constrained markets.

The new president and his administration will be confronted with the need to meet these challenges in addition to facing new pressures to seek or approve non-traditional funding sources to help bridge this sensitive and highly strategic gap. Many cash-rich Middle Eastern nations, generally viewed as allies, have expressed interest in investing in new and existing technologies with strong future growth prospects. China has recently indicated a willingness to consider investing in U.S. banks and other distressed financial institutions.

Would turning to such non-traditional sources for funding compromise the position and interests of the satellite industry's U.S. government clients? Would an extended period of 'no-growth' in space assets impair national defense capabilities if other global conflicts arise? Will other nations exploit such a gap to disproportionately advance the development of their space-based capabilities? If the credit crisis continues to expand globally will it be possible to attract investors from other industries in a timely way to ensure the replacement and enhancement of existing satellite fleets?

Nothing less than preserving national security and the U.S. lead in critical space activities may well hang in the balance as the new administration and their leaders confront these questions.

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