

Engines of Growth:

Economic Contributions of the U.S. Intellectual Property Industries

EXECUTIVE SUMMARY

Engines of Growth: Economic Contributions of the U.S. Intellectual Property Industries is the first study that quantifies the economic contributions of intellectual property (IP) industries to the U.S. economy. The report concludes that the U.S. IP industries are:

- ❑ the most important growth drivers in the current U.S. economy, contributing nearly 40% of the growth achieved by all U.S. private industry and nearly 60% of the growth of U.S. exportable high-value-add products and services;
- ❑ crucial to the future growth of the U.S. economy; gross domestic product (GDP) 10-year growth estimates would be approximately 30% lower than current predictions without the contributions of these industries;
- ❑ essential contributors to U.S. GDP, responsible for 1/5 of the total U.S. private industry's contribution to GDP and 2/5 of the contribution of U.S. exportable high-value-add products and services to GDP;
- ❑ among the largest and highest-paying employers in the country, representing 18 million workers who earn on average 40% more than all U.S. workers;
- ❑ increasingly contributing to the U.S. economy – in 2003 the “core” copyright industries contributed \$33 billion in reported net export revenues, and the patent-dependent aerospace industry reported 2004 net export revenues of \$32 billion; these two sectors are the largest positive contributors to U.S. balance of trade.

DEFINITION OF IP INDUSTRIES

This study analyzes the industries that rely most heavily on copyright or patent protection to generate revenue, employ and compensate workers and contribute to growth in the economy. The statistical measures described herein provide a reasonable and conservative assessment of the true importance of IP to the U.S. economy.

The IP Industries are examined in three cumulative groups as described below (see “Introduction” for further explanations).

- *Convergence Industries*: these industries depend fundamentally on copyright and/or patent protection to create, manipulate, distribute, exhibit, store and transport voice, text, audio and video information in a digital format. The convergence industries create products that are consumed directly in digital form or that are used interdependently by purchasers as a means to consume digitized products. Examples of these industries include semi-conductors, software publishers, motion pictures, video, sound recording, advertising, printing, and video and disk rental.
- *Other Patent Industries*: these industries build upon the legal protections of U.S. patents to improve products, gain efficiencies, innovate and discover yet newer methods to improve the lives of workers and consumers. Examples of this group include the automotive, aerospace, biotech/pharmaceutical and chemical industries.
- *Non-Dedicated Support Industries*: these industries support the physical distribution and transportation of the products and services that are produced by the IP industries listed above. Nearly 20% of their business relies on the distribution and transportation of IP-based products and services. Examples of these industries include general retail merchandisers, wholesalers and transportation companies.

METHODOLOGY

This study uses industry-specific data that is organized on the basis of the North American Industry Classification System (“NAICS”), which has recently been adopted by the relevant statistical and analytical reporting agencies of the U.S. government. The study generally reports trend data from 1998 through 2003 or, where available, through 2004.

The statistical measures that are presented here include: current dollar value added, growth in constant (real) dollar value added, industry contribution to overall U.S. growth, employment, employment compensation, foreign trade balance and impact on future GDP projections.

KEY FINDINGS

The IP industries are major growth drivers of the current U.S. economy, contributing nearly 40% of total growth today, significantly outpacing the country's overall growth rate. The total IP industries achieved an annual growth rate in value-added that was nearly twice the growth rate achieved for the U.S. GDP as a whole. The total IP industry had an approximate 20% share of U.S. private industry GDP in 2003, but was responsible for nearly 40% of the growth achieved by all of U.S. private industry during that year. Moreover, the total IP industry had approximately 40% of the GDP of U.S. exportable products and services yet contributed nearly 60% to the growth of U.S. exportable high-value-add products and services.

The IP industries are essential to the future growth of the U.S. economy. GDP 10-year growth estimates would be approximately 30% lower than current predictions without the contributions of the IP industries. In real terms, U.S. GDP is now expected to exceed \$13 trillion by 2010. To reach this level of GDP, the U.S. economy will have to grow by about \$3 trillion by 2010. If the IP industries do not contribute to this growth, real U.S. GDP will likely be no more than \$12 trillion by 2010 and real growth will be less than \$2 trillion.

The IP industries are essential contributors to U.S. GDP. In 2003 they comprised nearly 20% of the U.S. private industry's total contribution to GDP and nearly 40% of the GDP of U.S. exportable high-value-add products and services. The contribution or "value-added" by the IP industries was \$1.9 trillion dollars in 2003. By this measure the IP industries accounted for 17.3% of total contributions by U.S. private industry and government to the U.S. GDP and 19.8% of total U.S. private industry contribution to GDP in 2003, and 39.9% of the contribution of U.S. exportable products and services to the GDP.

The IP industries are among the largest employers in the country, with nearly 18 million workers. Also, the IP industries pay a significantly higher wage to its employees than most other industries. The compensation paid to IP industry employees surpasses the average compensation paid to all U.S. workers by as much as 40%. The dollar compensation paid to employees in the IP industries in 2003 was more than \$1.1 trillion. This compensation value represented approximately 18% of the total compensation paid to all industries in the GDP and about 22% of the compensation paid to all U.S. private industry employees in the same year.

The IP industries are significant contributors to U.S. competitiveness in the global economy, particularly in exports of software and media products. U.S. publishers, software makers, aircraft equipment manufacturers and motion picture producers reported *net exports* of approximately \$70 billion in 2004, far more than most other industries. Export revenue for software publishers alone in 2003 reached \$15.4 billion. Foreign exports of motion pictures and videos were more than \$10 billion in 2003 while computer systems design and related services reported export revenues of \$4.4 billion in the same year. Aircraft and related equipment manufacturers reported exports of \$29 billion in 2003 and \$32 billion in 2004. For all IP industries, *gross exports* in 2004 exceeded \$455 billion.

The “core” copyright industries are among the most significant contributors to the IP industries’ overall economic growth, particularly in terms of U.S. employment and balance of trade. From 1998 to 2004, the “core” copyright industries increased employment by more than 140,000 workers to a level of 2.6 million jobs in 2004. The “core” copyright industries also contribute significantly to the country’s balance of trade, reporting export revenues of \$33 billion in 2003, up from \$25 billion in 1998. This is in contrast to another IP industries sector, the consumer electronics (CE) hardware industries, which recorded a 25% decrease in U.S. jobs from 1998 through 2004, dropping to 367,000 in 2004, and which has an increasingly *negative* trade balance of \$84 billion in 2004, up from \$46 billion in 2000.