

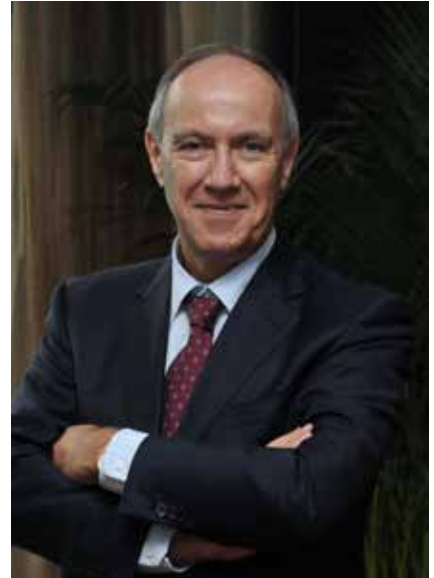


# World Intellectual Property Report

Breakthrough Innovation  
and Economic Growth

Economics & Statistics Series

2015



# Foreword

Policies which spur economic growth are imperative for governments the world over. Sustained growth improves living standards, creates new employment opportunities and helps alleviate poverty. While not a panacea, economic growth – if properly channeled – can contribute to stability, security, health and environmental sustainability.

But can continuous growth be taken for granted? A growing chorus of experts is asking this question, and with good reason. The period following the Second World War has seen the fastest global growth on record. Yet since the global financial crisis of 2008, economic growth has disappointed year after year. Can we safely assume that faster growth will eventually resume, or could low growth be the new normal?

Part of the answer depends on the extent to which innovation continues to drive growth. Historically, major breakthroughs in technological innovation have been at the root of long-lasting expansions in economic output. Those breakthroughs changed the face of production. What were once agrarian societies are today industry- and services-based economies, driven by technologies that were unimaginable three centuries ago. In many ways, innovation in the 21st century is thriving as never before. Yet how far the breakthroughs of today can invigorate growth for tomorrow remains an open question.

Intellectual property (IP) is at the center of the innovation–growth nexus. Much has been written about the importance of IP protection for economic growth. However, the precise channels through which IP shapes growth outcomes are complex, and vary across technologies and different forms of IP. To shed greater light on these channels, we have focused our *World Intellectual Property Report 2015* on the theme of Breakthrough Innovation and Economic Growth.

As with our previous reports, the *World Intellectual Property Report 2015* aims to explain and clarify the role the IP system plays in market economies. The report begins by reviewing patterns of economic growth throughout history and exploring the different ways in which innovation affects growth. In so doing, it examines how different forms of IP shape innovation and technology diffusion outcomes.

A novel element of this year's report is a series of case studies that explore the concrete linkages between innovation, IP, and growth in six areas of breakthrough innovation. Three case studies focus on historical innovations: airplanes, antibiotics and semiconductors. The other three examine innovations that currently appear to hold breakthrough potential: 3D printing, nanotechnology and robotics. All six case studies follow a common approach, looking first at the innovation's origin and its contribution to growth; then at the ecosystem which gave rise to the innovation; and finally at the role the IP system plays within that ecosystem.

The report also considers the prospects for future innovation-driven growth. Without claiming to foresee the future, it reviews the various arguments that suggest either a more optimistic or a more pessimistic outlook. Irrespective of today's growth perspectives, the report emphasizes that it remains critically important for governments and business to continue investing in innovation. Successful innovation, whether at the level of the company or the economy as a whole, requires perseverance – not least in periods of low growth when innovation budgets come under pressure.

Breakthrough innovation and economic growth is a multifaceted theme, and this report cannot address every question related to it. It does not, for example, discuss in detail how innovation-driven growth shifts the demand for jobs and shapes the distribution of income. Moreover, while describing how different innovations have diffused to developing economies, the report only touches on what might explain these diffusion patterns; indeed, understanding why some developing economies have managed to climb the technology ladder and others have not remains an unresolved puzzle in economic research.

We hope that this report provides a timely perspective on one of the most important challenges facing policymakers today, and that it will inform discussions among Member States to determine how the IP system can best contribute to innovation-driven growth for all countries.

Francis GURRY  
Director General



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