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## FOREIGN EXPERIENCE OF TAX INCENTIVES FOR INNOVATIVE ACTIVITIES

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### **Abstract**

This paper delves into the utilization and expansion of tax incentives for research and development (R&D) across various countries, examining the underlying reasons for their increasing prevalence and generosity. Despite some nations abstaining from such incentives due to perceived ineffectiveness, the global trend points towards a growing adoption and diversification of tax incentives aimed at spurring innovation. Through an analysis of international data and research, this study explores how changes in the global environment have fuelled the proliferation of R&D tax incentives. The paper highlights the key motivators for government intervention in R&D, including market failures that impede the private sector from fully capitalizing on new knowledge, the inherently risky nature of research activities, and the strategic importance of R&D in achieving national goals. Furthermore, the study addresses the varied approaches to tax incentives, such as direct and indirect support, and evaluates their impact and effectiveness in fostering scientific and technological advancement. The findings underscore the critical role of tax incentives in national innovation systems and the nuanced balance countries strive to achieve in implementing these fiscal tools to enhance competitiveness and sustainable economic growth.

**Key words:** *Tax Incentives, Research and Development (R&D), Innovation Policy, Government Intervention, Market Failures, Global Competitiveness, Fiscal Stimuli, Economic Growth, Innovation Performance.*

### **Introduction**

The paper delves into the taxation strategies employed by various leading industrial nations to encourage innovation. It highlights that tax incentives

are primarily aimed at businesses and investors rather than scientific institutions. The adoption of foreign strategies in crafting tax incentive systems to support scientific and innovative endeavors is advocated. Tax incentives are recognized as effective government tools for fostering science, technology, and innovation, contributing to sustainable economic growth and enhanced global competitiveness.

Evidence suggests that tax incentives are critical components of policies geared towards science, technology, and innovation. These fiscal incentives are becoming more flexible, helping achieve broader objectives, and their impact and comparison methodologies are continually improving.

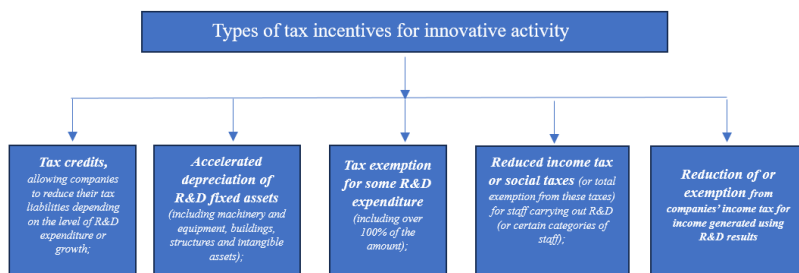
Particularly, the paper focuses on the increasing use and generosity of R&D tax incentives over the past thirty years. It explores the global dynamics that have driven the widespread adoption and enhancement of these incentives.

The necessity of state intervention in the innovation market for scientific and technological advancement is underscored, with tax measures playing a significant role. Despite some advanced economies lacking specific tax arrangements for innovation (such as Estonia, Germany, New Zealand, and Switzerland), R&D tax incentives are generally prevalent.

It is noted that Estonia has seen significant growth in innovation performance from 2006 to 2013 despite its lack of specific tax incentives. The importance of R&D tax incentives has increased, as evidenced by the growing number of countries adopting them. However, some countries, like Mexico and New Zealand, do not support such incentives due to doubts about their effectiveness. Others, like Estonia, Germany, and Sweden, prefer to create a generally favorable tax environment.

The paper discusses the evolution of tax incentive schemes, particularly in the U.S., where since 1954 tax legislation has supported R&D and innovation. Tax credits for R&D have been a primary method since 1981. Similarly, Canada has had tax incentives since the 1960s and introduced grants in 1967 to encourage firm-level innovation.

The study also covers Japan's extensive use of various tax incentives to stimulate innovation, including accelerated depreciation and tax discounts on development costs and foreign technology since the mid-20th century. Sweden has been offering a tax exemption on R&D costs since 1973, while France and the Netherlands provide incremental tax incentives based on the increase in R&D expenses.



In summary, the paper examines how different countries utilize tax incentives to stimulate innovation, with a focus on the reasons behind the increasing popularity and generosity of these measures. The diverse approaches underscore the global commitment to fostering an environment conducive to scientific and technological progress.

### **A key element of any national incentive model is a reduction in corporate income tax**

Market failures typically necessitate government intervention to support R&D, either directly or indirectly. This is because companies often cannot fully capture the benefits of new knowledge, leading to underinvestment since the broader societal benefits aren't reflected in their private returns. Government support, through funding, intellectual property rights, and other measures, aims to compensate for these shortfalls and encourage increased R&D spending. Several reasons justify this support:

- The inherent uncertainties, risks, and potential for increased costs in research activities;
- Difficulties in securing external funding due to these risks and uncertainties;
- The strategic importance of certain research areas like defense, health care, and energy;
- The need for collaboration among researchers and between researchers and users;
- The critical role of R&D investment in enhancing competitiveness and fostering long-term growth.

While the necessity for governmental support is widely accepted, the selection and balance of various support forms depend on each country's specific challenges, potential impacts, costs, and best practices. Today, many

leading industrial nations implement diverse tax incentives to foster innovation, including R&D tax credits, targeted investment credits, and incentives for executing significant projects, along with programs aimed at utilizing R&D for industrial modernization.

The increasing scope and generosity of these tax incentives raise questions about their effectiveness compared to direct policy tools, which may carry fewer risks. Recent trends show a surge in creative approaches to tax incentives, particularly R&D tax credits, which remain the most prevalent. This growing use is often attributed to their perceived effectiveness. A critical issue to explore is the discrepancy between the actual effectiveness of R&D tax incentives and their increasing popularity and generosity.

Countries such as Denmark, the Netherlands, and Norway have expanded R&D tax credits to include process R&D, broadening the scope from manufacturing to service industries. Additionally, some nations have introduced or enhanced tax incentives aimed at boosting the commercialization of R&D, allowing profits derived from patented or innovation-based products to be taxed at lower rates than other types of income.

### **Advantages and disadvantages**

Tax competition typically results in governments providing insufficient local public services, known as 'under-provision' or 'allocative inefficiency'. However, when directed towards the R&D sector, tax competition can boost public goods supply by fostering technological and innovative development, which act as quasi-public goods. Indirect state financing of R&D via tax breaks may also generate radical innovations, benefiting the state budget through channels other than corporate taxes.

Recognized benefits of R&D tax incentives include minimal market interference, availability to all firms irrespective of their R&D focus or size, and a more efficient identification of necessary R&D support since firms conduct the research themselves. These incentives also streamline government and corporate spending by leveraging existing tax structures and are independent of budgetary constraints, simplifying decision-making processes.

Tax incentives are categorized into volumetric, based on total R&D expenditure, and incremental, based on increases in R&D spending over a base period. Commonly, firms can write off current R&D expenses and apply accelerated depreciation on related equipment to reduce their taxable income. Some jurisdictions even permit deductions exceeding the actual R&D spending.

Predominantly, industrialized and emerging economies offer tax credits, direct deductions, and deferred taxation to encourage R&D. Tax credits reduce payable taxes in proportion to qualified R&D expenses. Deferred taxation addresses the timing mismatch for firms investing heavily in R&D but yet to profit substantially.

These tax measures are appealing as they reward actual innovation without preemptive funding. They drive robust demand for research and innovation through competitive pressures. Regular reviews of these incentives allow governments to strategically boost innovation in key sectors and adjust the research and industrial landscape.

Despite their stability during economic downturns and lack of international regulation constraints, R&D tax incentives are criticized for potential unforeseen increases in government spending, complex administration due to globalization, and a tendency to benefit mainly large multinational corporations. These incentives also risk funding projects that would proceed without support, misclassification of non-R&D activities as research, and preference for projects with high private rather than social returns.

The broader adoption and increasing generosity of R&D tax incentives reflect external factors like globalization, regional integration, and a growing emphasis on innovation as a driver of economic development. This environment has intensified competition for foreign direct investment (FDI), with nations increasingly using R&D incentives to attract such investments, especially in the profitable R&D sector. This strategy not only boosts local innovation but also helps prevent the relocation of domestic companies to countries with more favorable conditions.

### **Innovation and Economy Shifting aims**

The objectives of tax incentives for R&D continue to expand, although the effectiveness of these incentives in enhancing R&D performance remains somewhat ambiguous. Historically, the primary goal has been to boost R&D expenditure in the private sector, a target that continues to hold significant importance, supported by compelling evidence of its broader impacts. Over the past decade, these incentives have also been leveraged to pursue other critical objectives across many nations, including:

- Driving long-term growth and boosting the competitiveness of the national economy.
- Enhancing labor productivity and fostering greater innovation.
- Facilitating structural advancements in the national innovation system and improving cooperation among stakeholders.

- Aiding the growth of small businesses and start-ups focused on innovation.
- Attracting foreign investment into R&D sectors.

### **Conclusion**

This discussion confirms that although tax incentives for R&D are widely adopted by both industrialized and newly industrialized countries, there is no universal formula that assures positive outcomes today. National strategies for tax incentives in science and technology evolve gradually, reflecting not just global experiences but also unique local factors, conditions, and constraints specific to each country. Thus, while international practices in tax support for innovation serve as useful reference points, they must be adapted to align with the unique historical and situational context of each nation, such as Uzbekistan.

The paper investigates the growing prevalence and increasing scope of R&D tax incentives. The analysis supports the hypothesis that these trends are largely driven by external changes affecting the economic systems of individual countries, particularly shifts in the global environment. Undoubtedly, global dynamics such as advancing globalization, rising foreign direct investment flows, regional integration, and the escalating importance of innovation in economic development have influenced the expansion and enhancement of R&D tax incentives.

These global changes have introduced additional factors that national governments must consider when implementing R&D tax incentives, thereby encouraging their widespread adoption and increased scope. Notably, among these factors is tax competition, which has been a significant driver in the enhanced generosity and prevalence of R&D tax incentives.

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