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Section 174 Fix: Policy Progress, but Gaps Remain for Pre-Revenue Biomedical Firms

An analysis of health policy, systems-level incentive timing, and early-phase clinical research

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Policy

Section 174 of the United States Internal Revenue Code governs the tax treatment of domestic research and experimental (R&E) expenditures.

Policy History

Pre-TCJA	TCJA (2017)	Section 174 Fix
1954-2017	2022 - 2024	2025 onward
Immediate expensing of domestic R&E expenditures was the long-standing norm	Mandatory capitalization and amortization replaced immediate expensing	Immediate expensing of domestic R&E expenditures was restored

Stable for over six decades, the Section 174 framework was revised by the Tax Cuts and Jobs Act (TCJA) of 2017, with mandatory capitalization and amortization taking effect in 2022, and later restored to immediate expensing through the Section 174 Fix enacted under the One Big Beautiful Bill Act.

Policy Implementation

Immediate Expensing Operates Only as an Offset to Taxable Revenue

§ 174 — **Mechanism for permitted immediate expensing**

- **A** Revenue Generated
- **B** Deductible Domestic R&E Expenditures (Section 174)
- **C** Taxable Revenue (A – B = C)

Policy Positives

Near-Term Beneficiaries of Revenue-Offset R&E Expensing

Advanced Manufacturing
Capital-intensive development with ongoing taxable revenue streams

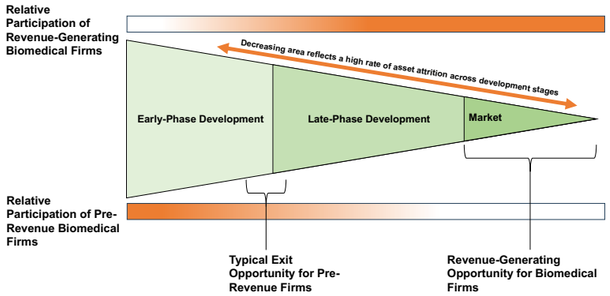
Technology & Software Platforms
Continuous R&E embedded within revenue-generating enterprises

Energy, Transportation, & Infrastructure Technologies
Large-scale domestic R&E with immediate applicability against taxable income

Restored immediate expensing of R&E expenditures primarily benefits capital-intensive sectors with ongoing taxable income, enabling near-term realization of revenue-offset tax benefits.

Biomedical Innovation Economics

Risk Concentration, Capital Specialization, and Value Transfer Across Development Stages



High Early-Phase Attrition

Biomedical innovation is characterized by substantial technical, regulatory, and clinical risk, with the highest rates of asset attrition occurring during early-phase development. As development progresses, the number of viable assets declines sharply, reflecting cumulative failure across preclinical and early clinical stages.

Capital-Specialized Innovation Model

This risk profile has driven the emergence of a capital-specialized innovation model in which pre-revenue, investment-financed firms concentrate on early-phase development, while revenue-generating firms preferentially participate in later-stage development and commercialization.

Value Transfer Across the Development Continuum

As assets advance and development risk is reduced, economic value is progressively transferred from pre-revenue firms to larger, revenue-generating organizations through acquisition, licensing, or partnership. This transition typically occurs before assets generate taxable revenue within the originating firm.

Implications for Policy Incentive Alignment

Because taxable income generally emerges only at later stages of development, incentive mechanisms tied to revenue-based offsets disproportionately benefit firms operating downstream of early innovation. This structural reality shapes how R&E incentives are realized across sectors and firm types.

System-Level Consequences

United States
- Non-refundable expensing of R&E
- Deferred benefit realization

Comparator Jurisdictions
- Refundable/cash-convertible R&D incentives
- Immediate liquidity

Misalignment between incentive timing and firm lifecycles places U.S. early-stage biomedical innovation at a competitive disadvantage relative to international tax frameworks that explicitly provide refundable or cash-convertible R&E incentives

Policy Design Implications

Cash-Convertible R&E Support	Early-Phase-Targeted Incentives	Lifecycle-Aligned Incentive Timing
Enable R&E benefits to deliver value before profitability	Target first-in-human and early clinical development decisions	Match incentive realization to pre-revenue firm lifecycles

Effective R&E incentive design depends on delivering value at stages of development when pre-revenue biomedical firms make critical investment and trial placement decisions.

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Work in Progress

This project represents part of an ongoing scholarly analysis of the interaction between innovation economics and health policy design. The author and Dr. Mitchell Wolden are developing this topic into an editorial manuscript focused on incentive timing and early-phase biomedical innovation.

Research Interests

Health policy design | Innovation economics | Clinical trial systems | Translational development strategy within biomedical research

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