#### CP

**CP Text: Member nations of the WTO should adopt an international policy of internal exhaustion, limits patents and allows innovation to keep circulating.**

**Patent “exhaustion” – IP rights void once sold**

**WTO 06 -**

PARALLEL IMPORTS, GREY IMPORTS AND ‘EXHAUSTION’ OF RIGHTS

Parallel or grey-market imports are not imports of counterfeit products or illegal copies. These are products marketed by the patent owner (or trademark- or copyright-owner, etc) or with the patent owner’s permission in one country and imported into another country without the approval of the patent owner.

For example, **suppose company A has a drug patented in the Republic of Belladonna and the Kingdom of Calamine, which it sells at a lower price in Calamine. If a second company buys the drug in Calamine and imports it into Belladonna at a price that is lower than company A’s price, that would be a parallel or grey import.**

**The legal principle here is “exhaustion”, the idea that once company A has sold a batch of its product (in this case, in Calamine), its patent rights are exhausted on that batch and it no longer has any rights over what happens to that batch.**

**The TRIPS Agreement simply says that none of its provisions, except those dealing with non-discrimination (“national treatment” and “most-favoured-nation treatment”), can be used to address the issue of exhaustion of intellectual property rights in a WTO dispute**. In other words, even if a country allows parallel imports in a way that another country might think violates the TRIPS Agreement, this cannot be raised as a dispute in the WTO unless fundamental principles of non-discrimination are involved.**The Doha Declaration clarifies that this means that members can choose how to deal with exhaustion in a way that best fits their domestic policy objectives.** [Article 6](https://www.wto.org/english/tratop_e/trips_e/factsheet_pharm02_e.htm#art6) and [Doha declaration 5(d)](https://www.wto.org/english/tratop_e/trips_e/factsheet_pharm02_e.htm#dohadecl5d).

**Exhaustion recreates cycle of competition, drives innovation**

**Ghosh 13 -**[(Shubha Ghosh, professor, University of Wisconsin Law School) “The Implementation of Exhaustion Policies: Lessons from National Experiences”, ICTSD, November 2013, <https://www.files.ethz.ch/isn/178675/the-implementation-of-exhaustion-policies.pdf>] ET DD

A fundamental question in intellectual property policy is whether competitive markets or markets with some degree of concentration are more conducive to innovation and growth. There are arguments in support of both positions, but the current understanding is that **competition is more conducive to innovation than concentration**while the latter is important for realizing scale effects and the financing of research and development in some situations.

**The exhaustion doctrine is relevant to this debate to the extent that a strong exhaustion doctrine fosters competition. By allowing for entry of new distribution channels, the exhaustion doctrine provides a competitive source of goods that can allow new firms to enter an industry and can limit concentration of existing firms (and any possible harms from that concentration). In this sense, the exhaustion doctrine promotes gray markets that can be pro-competitive.**

**TRIPS-mandated IPR exhaustion eliminates trade barriers**

**Chiappetta 00 -**[(Vincent Chiappetta, Willamette University, College of Law) “The Desirability of Agreeing to Disagree: The WTO, Trips, International IPR Exhaustion and a Few Other Things”, Michigan Journal of International Law, 2000] ET DD

**The minimum national requirements approach to encouraging freer international flow and development of IP carries a substantial risk of creating or raising other barriers to trade. TRIPS does not create single, unified "international" IPRs. The IP "owner" still obtains a collection of locally enforceable IPRs, one from each jurisdiction.**Standing alone, requiring stronger independent national IPRs in every WTO member country therefore enhances both the holder's portfolio of parallel national rights and the related ability to use them to restrict the free flow of IP-related goods in the worldwide market." **Without further action, the TRIPS national "harmonization" reduces barriers to flow of IP in exchange for increased barriers to flow of IP-related goods.**

**The TRIPS negotiators recognized that mandating "first sale" international exhaustion eliminated this trade-off.** The issue was hotly debated. **Exhaustion proponents argued that the resulting flow of parallel imports would have the salutatory effect of forcing precisely those market competition efficiencies envisioned by the free-trade principles driving GATT and its WTO successor.**5 Non-exhaustion advocates argued that permitting market divisions could have positive effects on the creation and availability of intellectual products6 and avoids unnecessary intrusion on the strong tradition of national sovereignty over intellectual property matters.

Eventually the exhaustion discussion exhausted the negotiators.**Article 6 of TRIPS reflects their ultimate inability to agree: "For purposes of dispute settlement under this Agreement ...nothing in this Agreement shall be used to address the issue of the exhaustion of intellectual property rights."" As a result, national and regional authorities retain exclusive decision-making authority over the issue.59 Moreover, Article 6 expressly instructs those authorities not to interpret TRIPS as providing any guidance on the question.**

**Consequently, TRIPS only partly accomplished the goals articulated in its Preamble. It was "successful" in creating stronger national IPRs throughout the WTO and thereby encouraging freer flow of IP in the worldwide marketplace. However, it not only failed to avoid the trade barriers arising from such rights, but actually provided the means for increasing them.**

#### Innovation DA

**Innovation high now**

**Dunleavy et al 21** Kevin Dunleavy [staff writer for Fierce Pharma. He joined the Fierce team after working 26 years as a newspaper sportswriter], Eric Sagonowsky, Noah Higgins-Dunn, Fraiser Kansteiner, Angus Liu, 7-6-2021, "Innovation on hold during the pandemic? FDA says no with 29 approvals in first half of 2021," FiercePharma, https://www.fiercepharma.com/special-reports/innovation-hold-during-pandemic-fda-says-no-27-approvals-first-half-2021, accessed 7/23/2021 EH

**Many pursuits** have been put **on hold during the** coronavirus **pandemic**.**But biopharma**ceutical **innovation isn’t one of them**. **In 2020, the FDA approved 53 new drugs,** the **second-most** in a single year, **after 2018’s** bounty of 59. And the **momentum** has **continued through the first half of 2021**. With the **FDA endorsing its 29th novel drug on June 30**, the industry was slightly **ahead of last year’s** pace. No. 29 came last week with a green light to Jazz Pharmaceuticals for its blood cancer therapy Rylaze. It was the first FDA approval in 23 days. Perhaps the U.S. regulator needed a break after the uproar that ensued after its June 7 nod for Biogen’s Alzheimer’s disease treatment Aduhelm. It was an approval so divisive that three members of the FDA’s advisory committee that reviewed the drug quit in protest. In his resignation letter to acting FDA commissioner Janet Woodcock, Harvard Medical School professor Aaron Kesselheim called the move a “debacle” and “probably the worst drug approval decision in recent U.S. history.” Within hours of its green light, Biogen ignited another firestorm when it revealed the treatment’s annual price tag of $56,000 and provided a new flashpoint for the decades-old drug-pricing debate. Before the Aduhelm controversy eclipsed everything else, the year had featured **a lot of**other**high-profile approvals**. GlaxoSmithKline and ViiV Healthcare earned a nod for Cabenuva, a long-awaited monthly injectable for those with HIV. ADC Therapeutics won a green light for Zynlonta, the first single-agent CD19-targeted antibody-drug conjugate for diffuse large B-cell lymphoma. And Apellis scored with Empaveli **for** the rare, chronic blood disorder paroxysmal nocturnal hemoglobinuria (PNH). Another high-profile approval came in late May for Amgen's new cancer drug Lumakras. The non-small cell **lung cancer** treatment has been highly anticipated, as it targets KRAS mutations which were previously believed to be “undruggable.” The green light for Lumakras triggered a Memorial Day weekend splurge for the FDA. On the same Friday afternoon, Alkermes’ **schizophrenia** drug Lybalvi and BridgeBio’s bile duct cancer therapy Truseltiq also won approvals. Then the Tuesday after the holiday, Scynexis gained an FDA nod for its potential blockbuster Brexafemme, the first new treatment for vaginal **yeast infection** in more than two decades. The approval for Truseltiq was particularly noteworthy because it was the second this year for tiny BridgeBio, which reported $8.2 million in revenue last year. The only other firms with two approvals in the first half are companies on the other end of the industry spectrum. Pharma giant Johnson & Johnson earned nods for NSCLC antibody Rybrevant and multiple sclerosis therapy Ponvory. Bristol Myers Squibb scored two CAR-T approvals, as well. In terms of treatment areas, it is of little surprise that oncology accounts for 12 of this year’s approvals. That figure represents 44% of all new drug approvals this year, an even higher rate than in 2020 when 20 of 53 new drugs were in the oncology class. Even during a pandemic, don’t expect the pace of innovation to subside. It’s a sign of the times, and successes will only fuel further innovation, according to Ernst & Young industry analyst, Arda Ural. “The **acceleration in the successful development** of truly novel platform technologies and therapeutics **offers** the **opportunity for higher returns on investment and are driving pipeline priorities**,” Ural wrote in his analysis of first-quarter trends this year. “**Gene therapy, mRNA vaccines and therapeutics, cell therapy and gene editing once seemed like science fiction but now are a reality.”**

**A waiver kills innovation by disincentivizing companies**

**Glassman 21**, Amanda Glassman, May 6, 2021, Barron’s, “Big Pharma Is Not the Tobacco Industry”,<https://www.barrons.com/articles/big-pharma-is-not-the-tobacco-industry-51620315693> Livingston RB

But here is the crux of the problem: The pharmaceutical industry is not the tobacco industry. They are not merchants of death. The companies are amoral and exist to make money, but their business is not fundamentally immoral. Big Pharma (mostly) develops and sells products that people need to survive and thrive. Their products improve health and welfare. Fights over access to medicines are possible because medicines exist in the first place—medicines that were usually developed by Big Pharma. And yes, the pharmaceutical industry benefits from public subsidy and publicly financed foundational research. But the companies also put their own capital at risk to develop new products, some of which offer enormous public benefits. In fact, several of them did just that in the pandemic: invested their own money to develop patented manufacturing technologies in record time. Those technologies are literally saving the world right now. Public funding supported research and development, but companies also brought their own proprietary ingenuity and private investments to bear toward solving the world’s singular, collective challenge. Their reward should be astronomical given the insane scale of the health and economic benefits these highly efficacious vaccines produce every day. Market incentives sent a clear signal that further needed innovation—greater efficacy, single doses, more-rapid manufacturing, updated formulations, fast boosters, and others—would be richly rewarded. Market incentives could also have been used to lubricate supply lines and buy vaccines on behalf of the entire world; with enough money, incredible things can happen. But activist lobbying to waive patents—a move the Biden administration[endorsed yesterday](https://www.barrons.com/articles/u-s-to-back-waivers-for-covid-19-vaccine-patents-51620300821?mod=article_inline)—sends exactly the opposite signal. It says that the most important, valuable innovations will be penalized, not rewarded. It tells innovators, don’t bother attacking the most important global problems; instead, throw your investment dollars at the next treatment for erectile disfunction, which will surely earn you a steady return with far less agita. It is worth going back to first principles. What problem are we trying to solve? We have highly efficacious vaccines that we would like to get out to the entire world as quickly as possible to minimize preventable disease and deaths, address atrocious inequities, and enable the reopening of society, trade, and commerce. Hundreds of millions of people have been plunged into poverty over the past year; in the developing world, the pandemic is just getting started. What is the quickest way to get this done? Vaccine manufacturing[is not just a recipe](https://blogs.sciencemag.org/pipeline/archives/2021/02/02/myths-of-vaccine-manufacturing); if you attack and undermine the companies that have the know-how, do you really expect they’ll be eager to help you set up manufacturing elsewhere? Is the plan to march into[Pfizer](https://www.barrons.com/quote/PFE) and force its staff to redeploy to Costa Rica to build a new factory? Do the U.S. administration or activists care that this decision could take years to negotiate at the World Trade Organization, and will likely be litigated for years thereafter? Does it make sense to eliminate the incentive for private companies to invest in vaccine R&D or in the response to the next health emergency? And if the patent waiver is only temporary and building a factory takes months or years, will anyone bother to do so, even if they could? No, none of it makes sense. Worse still, we could solve the policy problem more easily by harnessing market incentives for the global good by ponying up cash to vaccinate the entire world. No confiscation necessary. The big problem is that countries have not bought enough vaccine to inoculate most of their populations.[Covax](https://www.barrons.com/articles/seth-berkley-vaccine-manufacturers-need-to-step-up-on-affordability-51606502785?mod=article_inline), buying on behalf of 91 lower-income countries, is only collecting enough funding to cover 20% of their population. In many parts of the world, such as the Middle East, sub-Saharan Africa and some countries in Latin America, we see[very low levels](https://openknowledge.worldbank.org/bitstream/handle/10986/35454/How-to-End-the-COVID-19-Pandemic-by-March-2022.pdf?sequence=1&isAllowed=y) of vaccine prepurchasing. We have seen this week that the government of India had not ordered enough vaccine to cover its own population, for example, resulting in export bans on its domestic vaccine manufacturers; nor has it approved the[Pfizer vaccine](https://www.reuters.com/world/india/pfizer-says-it-told-india-there-no-safety-concern-with-its-covid-19-vaccine-2021-05-03/). Our collective focus instead must be to make the market: to set up advance purchase agreements to establish demand via country cooperation, Covax, and the multilateral development banks. Voluntary licensing was also working.[AstraZeneca](https://www.barrons.com/quote/AZN) has done extensive tech transfer, and its vaccine is now being made in South Korea, Belgium, the Netherlands, Argentina, India, and Brazil. With a clear long-term demand trajectory from governments all over the world, coordinated and led by Covax or the U.S. government, incentives for voluntary licensing and technology transfer could have worked. The value of the Pfizer patent is—was?—in the hundreds of billions. The[value of Pfizer and Moderna](https://www.barrons.com/articles/moderna-pfizer-covid-19-vaccine-stock-51620312826?mod=article_inline) as companies in the United States is far more than that. But the cost to just buy vaccine with public monies would come to maybe $50-75 billion, no big deal given the[$16 trillion](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7604733/#:~:text=The%20estimated%20cumulative%20financial%20costs,loss%20would%20be%20nearly%20%24200%2C000.) we’ve lost in economic damage to date. So why use scarce political capital on a contentious and mostly symbolic measure with major short- and long-term downsides? It is feel-good posturing over substance; “principle” over practicality. To even write this essay, I feel the need to defend my bona fides and independence. I have long advocated that payers negotiate medicine and vaccine prices based on value and affordability; I have called out extortionate “rare disease” pricing that uses human lives as hostages. I abhor the opioid peddlers and U.S. lobbying that blocks use of cost-effectiveness as a criterion for government purchase. My organization also declines funding from the pharmaceutical industry because we work on these issues. I am a Democrat. I sincerely, deeply hope I am wrong. And, even so, I am convinced that this policy is a grave error that will permanently erode innovation to tackle the world’s most important problems, and, worse, excuse U.S. inaction and lack of leadership on Covid-19 around the world.

**Medical innovation vital to global economy**

**GII 19**Global Innovation Index [The Global Innovation Index 2019 is the result of a collaboration between Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO) as co-publishers, and their Knowledge Partners, Confederation of Indian Industry, Dassault Systemes, Sebrae, Brazilian Micro and Small Industry Support Services, and Brazilian Confederation of Industry.], November 13, 2019, “Is medical innovation the key to global economic growth?”, https://www.globalinnovationindex.org/gii-blog/2019/Is-medical-innovation-the-key-to-global-economic-growth--b189, EH

**The global economy owes much of its success to better healthcare**, writes Columbia University Associate Professor Bhaven Sampat in the Global Innovation Index 2019. This article is part of a series about the power of innovation to solve social and economic challenges. Stories and statistics are drawn from the Global Innovation Index 2019 – your guide to world-changing ideas. **Over the past decade, global spending on healthcare has grown at around double the rate of** gross domestic product (**GDP**). In 2018, global healthcare expenditure was US$7.6 trillion, and by 2020, estimated global health expenditures will approach US$9 trillion. **Improvements** to healthcare **generate obvious social returns**: in the past 100 years, **better sanitation and medicine** have **doubled life expectancy in developing and developed countries** alike, and **drastically improved our quality of life**. The economics of living longer To what extent has a healthier population contributed to the global economy? Observing that **greater longevity expands the global workforce**, Nobel-Prize winning economist William Nordhaus calculated that the **economic value of greater longevity in the last 100 years matches economic growth in all other sectors**. There are statistics to support his estimate. For instance, while **billions** of dollars have been **ploughed into cancer treatments**, between 1988 and 2000, **improvements** to cancer survival **generated** social benefits valued at around US**$1.9 trillion** – **far outstripping investment**. **Similarly**, by the end of the 20th century, new **HIV/AIDS drugs generated US$1.4 trillion** in economic value **in the US alone**. Source: Global Innovation Index 2019, page 43 Looking ahead For **future medical innovations** to **have major economic impact**, one of several things will have to be true: • innovations must help prevent or treat diseases with a high disease burden • the process of innovation should be transformed by new technologies like AI, gene editing and cell therapy, to open up new areas of exploration and invention • new technologies must facilitate broad systemic improvements in healthcare delivery, lowering costs and/or improving outcomes. Although predicting the impact of specific areas of medical innovation is difficult, the **potential** for new medical innovation to generate valuable gains seems **high**. **The future of health innovation** will **depend on** the **policies** and institutions **created by** national and **global actors** to support research and innovation. These are **important** issues for policymakers and the public to consider carefully and deliberately—**given** the **transformative economic, social**, and **health impacts** that **new medical technologies have had historically, and** the **enormous potential value** of further health improvements **for current and future generations**.

**Now is key—we’re failing at diseases but tech necessary**

**Smythe 17** Dr. Roy Smythe 17, Chief Medical Officer for Health Informatics, 10-30-2017, "Was Malthus right about healthcare?," Philips, https://www.philips.com/a-w/about/news/archive/blogs/innovation-matters/can-the-malthusian-crisis-theory-be-applied-to-healthcare.html, EH

Consider his theory from the perspective of healthcare and disease burden. **The population keeps growing**, especially in the developing world. The aged population is rapidly increasing in the medically developed world6. The burden of non-communicable disease is rising everywhere7, and it looks like we’re failing miserably at keeping **up with the disease burden**. Was Malthus wrong about the capability of the agricultural and financial support structure to keep up with hunger, but correct in his warning about the inability of the global medical industrial enterprise to provide adequate care for disease? Let’s take heart disease as an example, by 2030 the annual global burden of death from ischaemic heart disease, stroke and hypertensive disease is predicted to increase by over 20% to more than 19 million8. And, **unless the trend is reversed, the cost burden** is predicted **to exceed 1 trillion** USD **per year**by 2035. In this case, what we need to consider is if **we can use tech**nology **to prevent** heart disease when it is preventable, and to stave it off or reduce it when it is not. One way to think about a group of patients from the standpoint of health and disease is a pyramid, with those most severely affected at the top, the healthy at the bottom, with those at varying stages of risk and severity in the middle and moving upwards. Everyone knows we should focus on those at the top of the triangle but it’s just as important that we move deeper into the triangle. A mix of devices, data collection and smart analysis can help. Our task? To reach those one level down from the top – let’s call them the “identified, but not comprehensively managed” with cardiovascular disease – and keep them away from the top, ensuring compliance and encouraging lifestyle changes. We should also be using data to identify those with a diagnosis of cardiovascular disease that has not been documented10. If these individuals aren’t documented, it’s difficult to keep them from moving up the pyramid. We must also use data to identify those at highest risk of developing cardiovascular disease at some point. By leveraging genomics and other physiologic and clinical indicators, we can delay the onset of disease and possibly minimize its impact when it manifests. Finally, we must work to provide those fortunate individuals currently at the base of our pyramid with tools to keep them healthy for as long as possible. Most non-communicable diseases, such as cancer and cardiovascular disease, are most prevalent in the medically-developing world, where populations are growing. We’re also facing significant increases in both oncologic and neurologic diseases in the rapidly aging, medically-developed world. We are doing okay with the most severely affected in the medical first world, but not as well prepared in countries where care is not adequate to meet the challenge presented by these patients, much less dealing with those at lower levels in the triangle in either context. The good news? **We have** many of the **tools** we need in hand now. The **question is whether or not we will increasingly incentivize** their **use** by providers and the general public, and apply them on a time course that allows us to avoid a Malthusian healthcare crisis.

**1NC – Econ DA**

**Biotech is resilient and fundamentals are strong – but this trend relies on innovation and investment**

**Cancherini et al 21** -- Laura Cancherini is a consultant in McKinsey’s Brussels office; Joseph Lydon is an associate partner in the Zurich office, where Jorge Santos da Silva is a senior partner and Alexandra Zemp is a partner, McKinsey, What’s ahead for biotech: Another wave or low tide?, April 30, 2021, https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/whats-ahead-for-biotech-another-wave-or-low-tide WJ

**As the pandemic spread across the globe in early 2020, biotech leaders were initially pessimistic**, reassessing their cash position and financing constraints. When McKinsey and BioCentury interviewed representatives from 106 biotech companies in May 2020,4 half of those interviewed were expecting delays in financing, and about 80 percent were tight on cash for the next two years and considering trade-offs such as deferring IPOs and acquisitions. **Executives feared that valuations would decline because of lower revenue projections and concerns about clinical-trial delays**, salesforce-effectiveness gaps, and other operational issues.

Belying this downbeat mood, biotech has in fact had one of its best years so far. **By January 2021, venture capitalists had invested some 60 percent more than they had in January 2020**, with more than $3 billion invested worldwide in January 2021 alone.5 IPO activity grew strongly: there were 19 more closures than in the same period in 2020, with an average of $150 million per raise, 17 percent more than in 2020. Other deals have also had a bumper start to 2021, with the average deal size reaching more than $500 million, up by more than 66 percent on the 2020 average (Exhibit 3).6

What about SPACs?

The analysis above does not include special-purpose acquisition companies (SPACs), which have recently become significant in IPOs in several industries. Some biotech investors we interviewed believe that SPACs represent a route to an IPO. How SPACs will evolve remains to be seen, but biotechs may be part of their story.

Fundamentals continue strong

**When we asked executives and investors why the biotech sector had stayed so resilient during the worst economic crisis in decades, they cited innovation as the main reason**. The number of assets transitioning to clinical phases is still rising, and **further waves of innovation are on the horizon**, driven by the convergence of biological and technological advances.

In the present day**, many biotechs, along with the wider pharmaceutical industry, are taking steps to address the COVID-19 pandemic**. Together, **biotechs and pharma companies have more than 250 vaccine candidates in their pipelines**, along with a similar number of therapeutics. What’s more, the crisis has shone a spotlight on pharma as the public seeks to understand the roadblocks involved in delivering a vaccine at speed and the measures needed to maintain safety and efficacy standards. To that extent, **the world has been living through a time of mass education in science research and development**.

Biotech has also benefited from its innate financial resilience. Healthcare as a whole is less dependent on economic cycles than most other industries. Biotech is an innovator, actively identifying and addressing patients’ unmet needs. In addition, biotechs’ top-line revenues have been less affected by lockdowns than is the case in most other industries.

Another factor acting in the sector’s favor is that **larger pharmaceutical companies still rely on biotechs as a source of innovation**. With the top dozen pharma companies having more than $170 billion in excess reserves that could be available for spending on M&A, **the prospects for further financing and deal making look promising**.

**Pharma collapses without strong IP protections**

**Buckland 17** - Danny Buckland (award-winning journalist who writes about health, general features and news, shortlisted for the prestigious Mind Media Awards for his work covering mental health issues), April 26, 2017, “Patents are lifeblood of pharmas”, https://www.raconteur.net/legal/intellectual-property/patents-are-lifeblood-of-pharmas/ WJ

**Pharmaceutical companies are staffed by ranks of attorneys, and the intellectual property (IP) specialist is now a pivotal position in the research and development (R&D) cycle that keeps a company profitable** and new drugs flowing to patients.

**Tighter regulatory frameworks** and even tighter purse strings controlled by healthcare systems **are putting the squeeze on pharma returns and limiting R&D budgets**. Figures from analysts Deloitte in 2016 reported projected return on investment was at a six-year low while development costs had risen by almost a third.

The litany of market changes is vexing for the industry. **The generation of blockbuster drugs, with massive returns**, **has ended,** national healthcare budgets are receding, traditional management methods are being challenged and new players, such as electronics and software companies, are entering the arena.

“**For pharmaceutical companies, the patent system is its lifeblood and it simply wouldn’t survive without it**,” says Simon Wright, a patent attorney with J A Kemp and chairman of the Chartered Institute of Patent Attorneys’ life sciences committee. “**The cost of getting a product to market is high and there is a high failure rate**, so you are not going to get investment unless you can protect your product and innovation. **Quite frankly, it would all collapse without good IP**.”

**Biopharmaceutical research is the bedrock of our economy – even minor reductions in income result in mass unemployment and butterfly effects**

**Sullivan 11** – Thomas Sullivan (Thomas Sullivan is Editor of Policy and Medicine, President of Rockpointe Corporation, founded in 1995 to provide continuing medical education to healthcare professionals around the world. Prior to founding Rockpointe, Thomas worked as a political consultant), July 12, 2011, Study Shows Importance of Biopharmaceutical Jobs For US Economy,” Policy and Medicine, http://www.policymed.com/2011/07/study-shows-importance-of-biopharmaceutical-jobs-for-us-economy-for-every-20-billion-loss-in-revenue.html WJ

**Biopharmaceutical research companies produce the highest-value jobs**, the types of jobs Americans want in the 21st century economy, the kinds of jobs that can drive future economic growth. **No other sector has the ability to drive innovation, create high-quality jobs and provide new life-saving medicines for patients.**

According to a recent report from the Battelle Technology Partnership Practice (TPP), “nationwide, the biopharmaceutical sector supported a total of 4 million jobs in 2009, including nearly 675,000 direct jobs. Battelle is the world’s largest non-profit independent research and development organization, providing innovative solutions to the world’s most pressing needs through its four global businesses.

TPP has an established reputation in state-by-state assessment of the biopharmaceutical sector, and has recently undertaken major impact assessment projects for the Human Genome Project, the nation’s biotechnology sector, and major bioscience organizations such as Mayo Clinic. TPP has also been active in provision of analysis to industry organizations, including the Council for American Medical Innovation, PhRMA and BIO-the Biotechnology Industry Organization.

**Each job in a biopharmaceutical research company supported almost 6 additional jobs in other sectors**, ranging from manufacturing jobs to construction and other building service jobs to contract researchers and child care providers. Together, **this biopharmaceutical sector-related workforce received $258 billion in wages and benefits in 2009**.

“Battelle also found that across all occupations involved in the biopharmaceutical sector, **the average wage is higher than across all other private sector industries**, due to the sector’s role as a ‘high value-added sector.” Specifically, the annual average personal income of a biopharmaceutical worker was $118,690 in 2009 as compared to $64,278 in the overall economy.

Additionally, the **biopharmaceutical sector’s total economic output** (including direct, indirect and induced impacts) was $918 billion in 2009. The sector generated an estimated $85 billion tax revenues in 2009—$33 billion in state and local and more than $52 billion in federal. This impact **comprises $382 billion in direct impact of biopharmaceutical businesses and $535 billion in indirect and induced impacts** (an output multiplier of 2.4—meaning that every $1 dollar in output generated by the biopharmaceutical sector generates another $1.4 in output in other sectors of the economy).

To put this export volume into perspective, 2010’s total biopharmaceutical exports of $46.7 billion compares favorably to other major U.S. exports including: automobiles ($38.4 billion in 2010 exports); plastics and rubber products ($25.9 billion); communications equipment ($27 billion) and computers ($12.5 billion).

In addition, the U.S. Congressional Budget Office noted that, “**the pharmaceutical industry is one of the most research-intensive industries in the United States** and that pharmaceutical firms invest as much as five times more in research and development, relative to their sales, than the average U.S. manufacturing firm.”

At over $105,000 in biopharmaceutical R&D per employee, **the sector is way ahead of the average across all U.S. manufacturing** which stands at about $10,000 per employee—and is far ahead of the second and third ranked sectors of “communications equipment” and “semiconductors, which respectively spend $63,000 and $40,000 per employee in R&D annually.

PhRMA Statement on Battelle Report

Consequently, Pharmaceutical Research and Manufacturers of America (PhRMA) President and CEO John J. Castellani issued a statement discussing the results from this report and the biopharmaceutical research sector’s impact on jobs and the American economy.

Castellani asserted that, “at a time when the U.S. is facing a jobs crisis, evidenced by the terrible employment numbers from last Friday, **it is critical that our policymakers embrace dynamic and innovative business sectors such as the biopharmaceutical research sector and refrain from stifling job growth** **through shortsighted proposals** **such as government-mandated price controls** in Medicare Part D.”

Specifically, the PhRMA CEO pointed to a new paper from the Battelle Technology Partnership Practice, which underscored the pharmaceutical sector’s tremendous contribution to America’s economy. Castellani recognized that, “**startling potential job losses would result from undermining the business foundations of biopharmaceutical companies**.”

He noted that the Battelle report estimated “**that a $20 billion per year reduction in biopharmaceutical sector revenue would result in 260,000 job losses across the U.S. economy**” and a $59 billion reduction in U.S. economic activity. As a result, Castellani recognized that, “as the President and Congressional leaders negotiate an important agreement on the debt ceiling and the future of the nation’s economy, it is critical that the jobs crisis is not exacerbated.”

For example, Castellani noted how “the President and some in Congress have proposed including government-mandated rebates in Medicare Part D as part of a debt ceiling agreement.” However, he recognized that “such a provision would have a dramatic negative effect on the economy and patients, and could undermine the success of the Part D program, which has very high beneficiary satisfaction and has cost far less than original government projections.”

He pointed to the “**Battelle numbers, which clearly demonstrated that reducing the biopharmaceutical sector’s annual revenue by $20 billion would be a serious blow to employment**.” Castellani added that, “while the research is not specific to any one policy or event, proposals being considered, such as government-mandated Part D rebates, would be expected to have revenue impact of this magnitude.”

Moreover, he noted that, “Part D is an unparalleled success, providing unprecedented access to life-saving medicines for seniors.” Accordingly, Castellani asserted that PhRMA does not “believe **policies that discourage R&D and cutting-edge science** and **that will inevitably slow the development of needed new medicines are fair for seniors waiting for new treatments against our most challenging and costly diseases**.”

Battelle Report

The Battelle Report quantifies the economic impact of the biopharmaceutical sector on the U.S. economy and jobs using input/output analysis, measures the direct and indirect impacts of the biopharmaceutical sector, and quantifies the economic impacts that would occur if biopharmaceutical revenues increase or decrease from significant changes in the business operating environment.

The report also highlights some of the functional impacts of the sector—the wide-ranging benefits provided through the biopharmaceutical sector’s contributions to enhancing human health, improving life spans and sustaining the high quality-of-life that Americans enjoy—and assesses the contributions of the biopharmaceutical sector to key areas of importance to our economy— innovation, product exports and quality of jobs produced.

The Battelle Report starts by recognizing that the biopharmaceutical sector has all of the characteristics for an ideal industry for economic growth and sustainability in the U.S. Specifically, the biopharmaceutical sector:

Grows in output and employment even in tough economic times

Provides high wage, good quality jobs

Is innovative and deploys high-technology to generate comparative advantage for U.S. companies

Generates significant exports that boost the U.S. economy

Has a strong supply chain that drives further economic growth across the economy through “multiplier effects”

Builds on America’s long-standing strengths and investment in fundamental and applied research

Encourages capital flows to sustain growth, and is profitable to provide funds for reinvestment into the research and development (R&D) cycle;

Generates federal, state and local taxes and other economic contributions that support public services

Is sustainable and not a major drain on global resources

Is geographically dispersed, providing opportunities for job creation and economic growth across many areas of the nation, not just a few selected places

Produces a product of value to society, something that improves the quality of life for humankind, including

Improved life spans (personal longevity)

Improved productivity resulting from prevention and effective management of disease and chronic conditions; and

Reductions in unnecessary hospitalizations resulting in potential cost-offsets elsewhere in the health care system.

Fundamental to major progress in human longevity, reducing the marginalization of individuals from disease and disability, and generally improving our quality-of-life, biopharmaceuticals are a unique contributor to societal and individual well-being.

Moreover, **the output of the biopharmaceutical sector is highly valued by society because the sector develops and manufactures a broad-range of unique products to treat disorders and diseases that, were they to go untreated, can ruin individual quality of life, personal abilities and productivity**. In many instances, biopharmaceuticals are central to helping to prevent and treat a range of public health issues, address pandemic risk and thereby support national economic security.

For example, innovation in the biopharmaceutical sector, combined with the diagnostic and treatment skills of U.S. healthcare professionals, has contributed to a lengthening of the average life span of Americans. In 1900, the expected life span of an American at birth was just 47.3 years. With the advent of more modern medicines and advanced medical knowledge, life expectancy at birth has seen a steady increase rising to 69.7 years in 1960, and 77.9 years in 2007.

In fact, the National Bureau of Economic Research reports that “there is a highly statistically significant relationship between the number of new molecular entities [drugs] approved by the FDA and increased longevity.” Furthermore, Lichtenberg found in a study of FDA data that “approval of priority-review drugs—those considered by the FDA to offer significant improvements in the treatment, diagnosis, or prevention of a disease—has a significant positive impact on longevity.”

Additionally, the American Hospital Association (AHA) notes that “advances in medicine contribute to national economic growth by helping Americans recover more quickly from injury and illness, avoid lost or ineffective work time due to flare-ups of chronic conditions, and live longer with higher quality of life.” **Without effective medicines and treatments for illnesses, injuries, pain and chronic conditions, the productivity of the U.S. economy would clearly be greatly impaired**. **Biopharmaceuticals are a key contributor to a more productive and healthy America and U.S. economy**.

Beyond direct employment in biopharmaceutical companies, the biopharmaceutical sector is the foundation upon which one of the United States’ most dynamic innovation and business ecosystems is built. A large part of the modern biomedical economy is built upon a robust foundation of biopharmaceutical companies that perform and support advanced biomedical and technological R&D, and act as the funnel and distribution engine for getting life-saving and quality-of-life-sustaining therapeutics to the marketplace.

Providing R&D impetus and funding, capital resources, technology licensing opportunities, and a sophisticated market access and distribution system, the biopharmaceutical sector is of central importance to the much broader biomedical and life sciences economy.

**Fueled by private investment capital, venture capital investments, and public/private collaborations, and enabled by the U.S. open market system**, the nation has been able to advance biomedical innovation, which in turn has led to new start-up companies, business growth and exports across the world.

Conclusion

Despite the tremendous success in the biopharmaceutical industry, emerging infectious diseases continue to present new challenges and a substantial volume of long-standing diseases such as cancer, diabetes, neurodegenerative diseases, psychiatric diseases, immunological diseases, etc. continue to demand novel treatments and improved therapeutics. There are millions of people suffering from diseases and disorders for which a therapy has yet to be found. **The need for ongoing biopharmaceutical research and development is simply enormous**.

The only way the U.S. economy can stay ahead of international competition is by using advanced R&D and innovation to drive the growth of high value-added industries. By leveraging investment in federal lab, university and industry R&D, our nation is able to produce high-value, typically technologically advanced products that the rest of the world values highly. In recent decades, **life sciences have come to the fore as a leading driver of U.S. technological innovation and competitive advantage, and the biopharmaceutical sector is a key foundation of the life sciences innovation ecosystem**.

**Causes economic meltdown – it’s far worse than previous recessions**

**Howrigon 17** -- Ron Howrigon “(President and Founder of Fulcrum Strategies. He earned a Bachelor's degree in Business Administration from Western Michigan University and a Master's in Economics from North Carolina State University, focusing in the area of Health Economics) http://www.kevinmd.com/blog/2017/01/health-care-crash-u-s-economy.html, January 19 2017, WJ

In recent history, **the U.S. economy has experienced the near catastrophic failure of two major market segments**. The first was the auto industry and the second was the housing industry. While each of these reached their breaking point for different reasons, they **both required a significant government bailout to keep them from completely melting down**. What is also true about both of those market failures is that, looking back, it’s easy to see the warning signs. What happens **if health care is the next industry to suffer a major failure and collapse?**It’s safe to say that **a health care meltdown would make both** **the automotive and housing industries’ experiences seem minor** in comparison. While that may be hard to believe, it becomes clear if you look at the numbers. The auto industry contributes around 3.5 percent of this country’s GDP and employs 1.7 million people. This industry was deemed “too big to fail” which is the rationale the U.S. government used to finance its bail out. From 2009 through 2014, the federal government invested around $80 billion in the U.S. auto industry to keep it from collapsing. **Health care is five times larger than the auto industry in terms of its percentage of GDP, and is ten times larger than the auto industry in terms of the number of people it employs**. The construction industry (which includes all construction, not just housing) contributes about 6 percent of our country’s GDP and employs 6.1 million people. Again, the health care market dwarfs this industry. It’s three times larger in terms of GDP production and, with 18 million people employed in the health care sector, it’s three times larger than construction in this area, too. **These comparisons give you an idea of just how significant a portion health care comprises of the U.S. economy**. **It also begins to help us understand the impact it would have on the economy if health care melted down like the auto and housing industries did**. So, let’s continue the comparison and use our experience with the auto and housing industries to suggest to what order of magnitude the impact a failure in the health care market would cause our economy. The bailout in the auto industry cost the federal government $80 billion over five years. Imagine **a similar failure in health care that prompted the federal government to propose a similar bailout program**. Let’s imagine the government felt the need to inject cash into hospital systems and doctors’ offices to keep them afloat like they did with General Motors. Since health care is five times the size of the auto industry**, a similar bailout could easily cost in excess of $400 billion**. That’s about the same amount of money the federal government spends on welfare programs. To pay for a bailout of the health care industry, **we’d have to eliminate all welfare programs in this country**. Can you imagine the impact it would have on the economy if there were suddenly none of the assistance programs so many have come to rely upon? **When the housing market crashed, it caused the loss of about 3 million jobs** from its peak employment level of 7.4 million in 1996. Again, if we transfer that experience to the health care market, we come up with a truly frightening scenario. **If health care lost 40 percent of its jobs** like housing did, **it would mean** **7.2 million jobs lost.** That’s more than four times the number of people who are employed by the entire auto industry — an industry that was considered too big to be allowed to fail. The loss of 7.2 million jobs would increase the unemployment rate by 5 percent. That means **we could easily top the all-time high unemployment rate for our country**. OK, now it’s time to take a deep breath. I’m not convinced that health care is fated to unavoidable failure and economic catastrophe. That’s a worst-case scenario. The problem is that at **even a fraction the severity of the auto or housing industry crises we’ve already faced, a health care collapse would still be devastating**. Health care can’t be allowed to continue its current inflationary trending. I believe we are on the verge of some major changes in health care, and that how they’re implemented will determine their impact on the overall economic picture in this country and around the world. **Continued failure to recognize the truth about health care will only cause the resulting market corrections to be worse than they need to be**. I don’t want to diminish the pain and anguish that many people caught up in the housing crash experienced. I think an argument can be made, though, that if **the health care market crashes and millions of people end up with no health care**, **the** resulting **fallout could be could be much worse than even the housing crisis**.

**Extinction**

**Tønnesson 15** Stein Research Professor, Peace Research Institute Oslo; Leader of East Asia Peace program, Uppsala University, 2015, “Deterrence, interdependence and Sino–US peace,” International Area Studies Review, Vol. 18, No. 3, p. 297-311

Several **recent works** on China and Sino–US relations **have made** substantial **contributions to the current understanding of how and under what circumstances** a combination of **nuclear deterrence and economic interdependence may reduce the risk of war between major powers**. At least four conclusions can be drawn from the review above: first, those who say that **interdependence may both inhibit and drive conflict** are right. **Interdependence raises the cost of conflict** for all sides **but** **asymmetrical or unbalanced dependencies and negative trade expectations** may **generate tensions leading to trade wars among inter-dependent states that** in turn **increase the risk of military conflict** (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, **decisions for war** and peace **are taken by very few people, who act on the basis of their future expectations**. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. **If leaders** on either side of the Atlantic **begin to seriously fear or anticipate their own nation’s decline** then **they may blame** this on **external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain** respect or **credibility, adopt protectionist policies, and** ultimately **refuse to be deterred by** either **nuclear arms or prospects of socioeconomic calamities. Such a dangerous shift could happen abruptly**, i.e. under the instigation of actions by a third party – or against a third party. Yet as long as there is both nuclear deterrence and interdependence, the tensions **in East Asia** are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. **The greatest risk is not** that **a territorial dispute** leads to war under present circumstances **but that changes in the world economy alter those circumstances in ways that render inter-state peace more precarious**. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. **This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to protect the world from Armageddon, and unreliably so**. **Deterrence could lose its credibility**: one of the two **great powers might gamble that the other yield in a cyber-war or conventional** limited **war**, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

**Economic decline hampers health programs and increase disease spread**

**Frank 18** – Robert A.University of Ottawa. [“Conflict and Disease: A Complex Relationship”, March 2018, [Lex AZ], 10.18192/riss-ijhs.v7i1.1895]

Impact of **Economic** Instability Financial **crises hinder** quality of **life**, **while** promoting **redistribut**ion of **funds away from areas** that are most **beneficial to citizens**. A common feature of economic crises is a rapid **increase in unemployment**, which **often results in** **instability and mass protest** (International Labour Organization, 2013). The uncertainty associated with financial loss is also a significant stressor that **can negatively impact** mental and physical **health**. **Throughout the economic crisis** in Greece, mental illness and suicide rates have increased significantly, while **HIV rates**have also **increased** **due to intravenous drug utilization** (Simou & Koutsogeorgou, 2014). Furthermore, many individuals are thrust into poverty and subsequently face the barriers associated with low socioeconomic status. Despite the **significant impact of** **economic collapse on** societal health, the **quality of healthcare** is often paradoxically sacrificed due to reallocation of limited funds, as **highlighted by** the **funding cuts** **to** **mental health and drug abuse prevention programs** in Greece during its economic struggles (Simou & Koutsogeorgou, 2014). A **society in economic crisis**, therefore, **faces a conflicting scenario with** increased demand for, but **reduced**supply of, **health services**.