# Sjostrom/Verska Aff – Day 2

## Contention 1 – A Crisis In Innovation

#### Elisabeht Hoen indicates in 2018 that:

Elisabeth Hoen, 4-9-18, “Practical Applications of the Flexibilities of the Agreement on Trade-Related Aspects of Intellectual Property Rights”, <https://medicineslawandpolicy.org/wp-content/uploads/2018/03/EllentHoen_dissertatie_Practical_Implications_2018.pdf>, Date Accessed 11-2-2018 // JM

A number of new initiatives have been launched to address the problem of insufficient research into the neglected diseases. These include more than two dozen public-private product development partnerships, such as the Drugs for Neglected Diseases initiative86 and a “priority review voucher” from the US Food and Drug Administration, awarded for the development of a new pharmaceutical for a neglected tropical disease (the voucher can be applied to any new drug application to speed up regulatory review time). 87 88 At the global level, two years of intergovernmental negotiations culminated in the 2008 Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property, adopted at the 2008 World Health Assembly. 89 The search is on for new ways to generate needs-driven medical innovation that will meet the needs of both the world’s rich and poor. Indeed, the crisis in innovation is not limited to developing countries or neglected diseases alone. While globally, the level of patent protection has increased over the past 20 years, the rate of pharmaceutical innovation has fallen, with an increasing number of “me-too drugs” of little or no therapeutic gain. Prescrire International found that 68% of the 3096 new products approved in France between 1981 and 2004 offered “nothing new” over previously available medicines. Furthermore, an analysis of more than 1000 new drugs approved by the US FDA between 1989 and 2000 found that more than three-fourths have no therapeutic benefit over existing products. 90

#### Richard Frank explains in 2017 that this view of innovation exists now because:

Richard G. Frank & Paul Ginsberg, 11-13-2017, "Pharmaceutical Industry Profits And Research And Development," No Publication, https://www.healthaffairs.org/do/10.1377/hblog20171113.880918/full/, Date Accessed 11-2-2018 // JM

The pharmaceutical industry is what economists call a high-fixed low-cost marginal cost industry. This means that the cost of bringing a new drug to market is very high and the process is risky, while the cost of producing an extra unit of a product that is on the market is frequently “pennies a pill”. There is energetic disagreement about the exact cost of bringing a new drug to market, but there is widespread recognition that the [costs run into at least many hundreds of millions of dollars](https://delauro.house.gov/sites/delauro.house.gov/files/Prescription-Drugs-Innovation-Spending-and-Patient-Access-12-07-16.pdf) per new drug product. In addition, for many drugs the costs of imitation are low. It is simple and low cost for a firm that did not develop the drug to produce a copy of a new drug. This means that if free competition were permitted, firms spending hundreds of millions of dollars to bring a new drug to market would be unlikely to recoup those investments, as competition would drive prices down to production costs ("pennies a pill"). It is these features of the economics of new drug development that make the establishment of intellectual property rights through the patent system and regulation of marketing exclusivity so important to promoting innovation in prescription drugs. Establishing temporary monopoly power for makers of new prescription drug products enables innovator companies to raise prices above the level of production costs and realize economic profits to compensate for the investment in pharmaceutical R&D. The fact that patents are granted and marketing exclusivity for new drugs is established does not mean there in no competition. Competition between patented drugs that treat the same medical conditions does occur, but it is based on the clinical features of the drugs and to a more limited extent on price. This is referred to as “differentiated” product competition. One feature of such competition is that manufacturers of the products can raise prices above production costs. In the case of differentiated competition, prescription drug manufacturers will tend to pursue R&D investments where the size of markets and the potential price-cost margins are greatest. Because pharmaceutical manufacturers are uncertain about the investments that their rivals are making and long lead times are generally required to bring a new product to market, there are incentives for rival companies to all chase big markets, for example dementia or prevalent cancers, in the hope of realizing large returns. The result of this type of [in a] “arms race” is “overinvestment” in certain clinical areas and lower rates of return on investment than hoped for. This state of affairs can continue indefinitely, eluding normal market self-correction mechanisms, due to prescription drug insurance that has become more common and more generous (see below) and to public-sector drug programs that are often passive purchasers.

#### There are two implications to this type of innovation in the status quo. First, me-too drugs neglect chronic diseases. He argues:

Joshua J. Gagne, & Niteesh K. Choudhry, 2-15-2011, “How Many “Me-Too” Drugs Is Too Many?,” <https://scholar.harvard.edu/files/nkc/files/2011_me_too_generic_commentary_jama.pdf>, Date Accessed 10-30-2018 // JM

In contrast, more options in a therapeutic class may make treatment decisions more difficult and may undermine clinical outcomes.3 Producing me-too drugs focuses research and development resources on drugs for conditions for which treatment options currently exist, while neglecting other conditions of more pressing public health importance.4 The proprietary nature of rebate information makes estimating the savings from within-class competition a matter of speculation, especially if generic drugs already exist in the class. Even at heavily discounted prices, brand-name drugs almost certainly cost more than generic medications. The associated spending differentials may have important implications for consumers and the health care system as a whole.5 Newly approved me-too drugs are much more likely to be heavily marketed than multisource generic drugs, which leads to greater prescribing of brand-name products despite the absence of data that their higher prices translate into appreciable differences in clinical outcomes.6 For patients, high drug costs [which] are a central reason for nonadherence to essential medications.7 In addition, at the time of approval little information about the benefits and safety of me-too drugs is available to patients, prescribers, and payers compared with the often extensive postmarketing history of products that were previously approved.

#### The impact of neglecting more pressing concerns means millions die each year. The National Health Council quantifies that:

National Health Council, 7-29-2014, “About Chronic Diseases,” <http://www.nationalhealthcouncil.org/sites/default/files/NHC_Files/Pdf_Files/AboutChronicDisease.pdf>, Date Accessed 10-30-2018 // JM

Generally incurable and ongoing, chronic diseases affect approximately 133 million Americans, representing more than 40% of the total population of this country.2 By 2020, that number is projected to grow to an estimated 157 million, with 81 million having multiple conditions.3 About half of all adults have a chronic condition, and approximately 8 percent of children ages 5 to 17 were reported by their parents to have limited activities due to at least one chronic disease or disability.4,5 More and more people are living with not just one chronic illness, such as diabetes, heart disease or depression, but with two or more conditions. Almost a third of the population is now living with multiple chronic conditions. 6 In 2009, 7 out of 10 deaths in the U.S. are due to chronic diseases. Heart disease, cancer and stroke account for more than half of all deaths each year.7 According to the New England Journal of Medicine, people with chronic conditions receive only 56% of recommended preventive health care services.

#### Second, me-too drugs lead to a prescription errors. Iti Chauhan explains in 2018 that since:

Iti Chauhan, Mohd Yasir, Madhu Kumari, Madhu Verma, July 2018, “The pursuit of rational drug use: Understanding factors and interventions”, <https://www.researchgate.net/publication/326682708_The_pursuit_of_rational_drug_use_Understanding_factors_and_interventions>, Date Accessed 11-3-2018 // JM

Market is flooded with large number of “Me too” drugs. Availability of too many not needed doubtful medicines in market [it] leads to lack of consistent supply of needed drugs and variation of individual prescribing preferences and inconsistent prescribing leading to numerous prescribing and dispensing errors.[3,7]

#### Brianna da Silva concludes that:

Brianna A. da Silva, and Mahesh Krishnamurthy, 9-7-2016, “The alarming reality of medication error: a patient case and review of Pennsylvania and National data”, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5016741/>, Date Accessed 11-3-2018 // JM

Errors occurred at multiple care levels, including prescribing, initial pharmacy dispensation, hospitalization, and subsequent outpatient follow-up. This exemplifies the Swiss Cheese Model of how errors can occur within a system. Adverse drug events (ADEs) account for more than 3.5 million physician office visits and 1 million emergency department visits each year. It is believed that preventable medication errors impact more than 7 million patients and cost almost $21 billion annually across all care settings. About 30% of hospitalized patients have at least one discrepancy on discharge medication reconciliation. Medication errors and ADEs are an underreported burden that adversely affects patients, providers, and the economy.

#### Luckily a system of price controls is the solution that can shock the system to solve this crisis of innovation. Austin Frakt argues that:

Austin Frakt, 10-19-2015, "To Reduce the Cost of Drugs, Look to Europe," No Publication, https://www.nytimes.com/2015/10/20/upshot/to-reduce-the-cost-of-drugs-look-to-europe.html, Date Accessed 10-23-2018 // WS

When anyone proposes reducing prescription drug prices — as [Hillary Rodham Clinton](https://www.hillaryclinton.com/p/briefing/factsheets/2015/09/21/hillary-clinton-plan-for-lowering-prescription-drug-costs/) and [Bernie Sanders](https://berniesanders.com/press-release/sanders-plan-would-stop-runaway-prescription-drug-prices/) recently have — the most commonly heard criticism is that it would [squelch innovation](http://phrma.org/media-releases/phrma-clinton-proposal-would-turn-back-the-clock-on-medical-innovation). But not all pharmaceutical innovation is valuable. Though some drugs are breakthroughs, some offer only marginal benefits at exorbitant cost. There is a way to keep prices low while encouraging drug companies to innovate: Look to Europe and elsewhere, where drug prices are a fraction of those in the United States. Germany, Spain, Italy and a half dozen other countries have pushed drug prices lower with a system called reference pricing. It has led to drug price decreases and significant savings in the Canadian province of [British Columbia](http://www.ncbi.nlm.nih.gov/pubmed/16174135) as well as in [Germany](http://www.ncbi.nlm.nih.gov/pubmed/19639351), [Italy](http://www.ncbi.nlm.nih.gov/pubmed/15760698), [Norway](http://www.sciencedirect.com/science/article/pii/S001429210800024X), [Spain](http://www.ncbi.nlm.nih.gov/pubmed/17235443) and [Sweden](http://www.ncbi.nlm.nih.gov/pubmed/16473436). A study published in the [American Journal of Managed Care](http://www.ajmc.com/journals/issue/2012/2012-11-vol18-n11/A-Systematic-Review-of-Reference-Pricing-Implications-for-US-Prescription-Drug-Spending/) found that price reductions ranged from 7 percent to 24 percent. Here’s how it works: [In reference pricing systems] Drugs are grouped into classes in which all drugs have identical or similar therapeutic effects. For example, all brands of ibuprofen would be in the same class because they contain the same active agent. The class could include other nonsteroidal anti-inflammatory agents like aspirin and naproxen because they are therapeutically similar. The insurer pays only one amount, called the reference price, for any drug in a class. A drug company can set the price of its drug higher, and if a consumer wants that one, he or she pays the difference. Setting the reference price low enough puts considerable pressure on drug manufacturers to reduce prices for drugs for which there are good substitutes. If they don’t, consumers will [switch to lower-cost products](http://www.ncbi.nlm.nih.gov/pubmed/11944760). In British Columbia and in Italy, [the reference price](http://www.ncbi.nlm.nih.gov/pubmed/21142276) is set at the lowest-price drug in the class; Germany uses an average price across drugs; Spain also uses an average, but only of the lowest-priced products that account for at least 20 percent of the class’s market.

#### Frakt continues that this system:

Austin Frakt, 10-19-2015, "To Reduce the Cost of Drugs, Look to Europe," No Publication, https://www.nytimes.com/2015/10/20/upshot/to-reduce-the-cost-of-drugs-look-to-europe.html, Date Accessed 10-23-2018 // WS

In pushing prices down, reference pricing doesn’t suppress innovation; it encourages a different form of it. The market still rewards the invention of a cutting-edge drug with novel therapeutic effects. Such a drug might be placed in a new class and therefore could be priced high. But, within classes, the market also rewards innovations that lead to lower-priced drugs, because consumers switch to them to avoid out-of-pocket costs. In these ways, reference pricing promotes cost-effectiveness. Consider, for example, the price of new anti-cholesterol drugs known as PCSK9 inhibitors: about $14,000 a year. A recent report from the [Institute for Clinical and Economic Review](http://www.icer-review.org/) (ICER) received [considerable attention](http://www.nytimes.com/2015/09/09/business/new-cholesterol-drugs-are-vastly-overpriced-analysis-says.html?module=inline) when it argued that the drugs were priced too high for the value they offered patients. Reducing the prices to close to $2,000 would make them both cost effective and would help keep American health spending below a widely accepted growth target, according to ICER’s analysis. As it stands, other countries are far ahead of the United States in pricing drugs to promote cost-effective pharmaceutical innovation. But interest is growing here in new approaches. Peter B. Bach, a physician at Memorial Sloan Kettering Cancer Center, recently proposed a variation on reference pricing that considers how the cost-effectiveness of a cancer drug varies by what disease it is used to treat. He noted that the drug Tarceva costs the same whether it is used to treat patients with a kind of lung cancer or patients with pancreatic cancer. But the results are wildly different. On average, Tarceva extends a lung cancer patient’s life by just over three months; it extends a typical pancreatic cancer patient’s life by a mere week and a half. Critics of Dr. Bach’s idea, ours and the approach of ICER claim they would restrain innovation that could benefit patients. However, they are devised specifically to [and] reward smarter innovation, which is precisely what we need.

#### And, the data is on our side. Smarter innovation is exactly what is happening in Europe. The EMA quantifies that in 2017 – 38% of the drugs developed in the European Union were novel drugs, whereas the United States only produced around 5% of novel drugs as 95% of the drugs approved by the FDA were generics or me-too drugs.

European Medicines Agency, 1-23-2018, "Human medicines: highlights of 2017," No Publication, https://www.ema.europa.eu/en/news/human-medicines-highlights-2017, Date Accessed 11-3-2018 // JM

The European Medicines Agency (EMA) has published an [overview of its key recommendations of 2017](https://www.ema.europa.eu/documents/report/human-medicines-highlights-2017_en.pdf)regarding the authorisation of new medicines and the safety monitoring of medicines. Advances in medicines authorisations are essential for public health as they have the potential to improve the treatment of diseases. In 2017, EMA recommended 92 medicines for [marketing authorisation](https://www.ema.europa.eu/en/glossary/marketing-authorisation). Of these, 35 had a new [active substance](https://www.ema.europa.eu/en/glossary/active-substance), which has never been authorised in the European Union (EU) before. Many of these medicines represent a significant improvement in their therapeutic areas; they include medicines for children, for rare diseases and advanced therapies. An overview can be found in the document published today. Once a medicine is placed on the market, EMA and the EU Member States continuously monitor the quality and the benefit/risk balance of the medicine under its authorised conditions of use. In 2017, EMA gave new safety advice to manage risks observed with a number of medicines on the market in the EU. Regulatory measures ranged from a change to the [product information](https://www.ema.europa.eu/en/glossary/product-information) to the suspension or withdrawal of a medicine or the recall of a limited number of batches. An overview of some of the most notable recommendations is also included in the document.

Katherine Ellen, 10-13-2017, "The US is approving more generic drugs than ever," Quartz, https://qz.com/1101897/more-generic-drugs-were-approved-by-the-us-fda-in-fy-2017-than-ever-before/, Date Accessed 11-3-2018 // JM

By the end of the 2017 fiscal year in September, the US Food and Drug Administration had approved 763 new generic versions of drugs—112 more than it had in 2016, almost twice as many as in 2014. This [record push](http://www.lachmanconsultants.com/2017/10/final-fy-2017-anda-numbers-are-in-holy-cow/) is part of an effort to lower prescription drug costs. Generic drugs, which work the same way as previously patented pharmaceuticals, are less expensive than name-brand drugs. And although the FDA has no control of how much pharmaceutical companies can charge for their drugs, more generic drugs on the market theoretically drives market prices down by adding in more competition.

Reuters, 1-2-2018, "2017 Saw the Most New Drugs Approved in Over 20 Years," Fortune, http://fortune.com/2018/01/02/new-drug-approvals/, Date Accessed 11-3-2018 // JM

U.S. drug approvals hit a 21-year high in 2017, with 46 novel medicines winning a green light—more than double the previous year—while the figure also rose in the European Union. The EU recommended 92 new drugs including generics, up from 81, and China laid out plans to speed up approvals in what is now the world’s second biggest market behind the United States. Yet the world’s biggest drugmakers saw average returns on their research and development spending fall, reflecting more competitive pressures and the growing share of new products now coming from younger biotech companies.

#### Additionally, this smarter innovation happens quicker in a world of price controls as novel drugs are given priority status – Ali Shajarizadeh found in 2016 that:

Ali Shajarizadeh, September 2016, “Essays on Pharmaceutical Economics”, <https://prism.ucalgary.ca/bitstream/handle/11023/3396/ucalgary_2016_shajarizadeh_ali.pdf;jsessionid=9F2144FED887027447811ADA98D3F127?sequence=1>, Date Accessed 11-3-2018 // JM

Drugs with substantial therapeutic improvement, ceteris paribus, are submitted to Canada with less delay (approximately one year less, as shown in column 1) and to all jurisdictions with less delay (approximately 7 months less, as shown in column 3) than follow-on drugs. This result is robust to including the interaction terms and is not dependent on company size. Since drugs with priority status are more likely to be internationally price-referenced, this suggests firms may not see international referencing as an impediment to entering the Canadian market.

### Contention 2 – Employer Costs

#### Ali Diab argues in 2018 that:

Ali Diab, 2-28-2018, "American employers are in the healthcare business. – Collective Health Perspectives," Collective Health Perspectives, https://blog.collectivehealth.com/employer-driven-healthcare-270bfb7ee8c7?gi=e9aa453a98a, Date Accessed 10-31-2018 // JM

Employers play an outsized role in the purchase and provision of healthcare in the United States. To put the importance of employers in the U.S. healthcare economy in perspective: nearly 1 in 2 Americans — that’s 151 million of us — receive our healthcare coverage through an employer-sponsored health benefit plan. Of those, 3 out of 4, or about 108 million of us, receive health coverage through a self-insured employer plan, meaning our employer bears the financial risk of paying for the healthcare of its employees and their dependents. That dwarfs the 68 million Americans covered by Medicaid or the 58 million covered by Medicare. As a result, American employers spend nearly $1.2 trillion annually on healthcare for their employees and their families, equaling the $1.2 trillion spent annually by the federal government on Medicare and Medicaid combined. Measured in country terms, annual U.S. employer healthcare spend is larger than all but the world’s top 13 countries’ annual Gross Domestic Product (GDP). That means American employers spend more on healthcare each year than the entire economies of Indonesia (a country of 260 million) or Mexico (a country of 125 million). From 2006 to 2018, the total cost of healthcare per employee has risen 75%, while the median annual salary has only gone up 25% Moreover, the outsized inflation in healthcare costs over the past two decades has eaten into workers’ real wages, as well as the cash flow available to employers to re-invest in their businesses. From 2006 to 2018, the total cost of healthcare per employee (reflecting both employer and employee costs) has risen 75% from $8,079 to $14,156 a year, while the median annual salary of a full-time American worker grew by only 25%, from $35,464 to $44,564. The result? Not only are employers spending more on healthcare today than ever before, employees are seeing more and more of their compensation go toward healthcare costs each year. For a typical U.S. employer, healthcare often represents the second largest operating expense after employee wages. And for the vast majority of employers, it represents the fastest-growing operating expense — one that they feel they [employers] have little or no control in managing. As a result, the percentage of employers who have chosen to self-insure their employee healthcare plans has accelerated over the past two decades, as employers seek to gain more control over their healthcare spending and more mechanisms become available to incentivize and encourage workers to take better care of their health. In 1999, only 60% of U.S. employers with 200 employees or more self-insured their health benefits. By 2017, that number had risen to 79%. And it shows no sign of slowing down — today, 91% of covered workers at firms with 5,000 or more employees are on self-funded plans. Stated slightly differently, the biggest health insurance company in our country isn’t a health insurance company at all. It’s the tens of thousands of self-insured employers — along with our self-insured government — that underwrite the vast majority of Americans’ healthcare costs. So if you’re running a company in America, regardless of what industry you’re in, you’re in the healthcare business. And that means you need the right tools to be able to manage that critical line item in your corporate budget and drive a measurable return on your investment (ROI) in the experience and health outcomes of your employees.

#### This has left one specific industry with a massive problem. Igor Volsky indicates that in just one year:

Igor Volsky, 11-18-2008, "The Auto Makers And The Health Care Crisis," No Publication, https://thinkprogress.org/the-auto-makers-and-the-health-care-crisis-55282007c3de/, Date Accessed 10-30-2018 // JM

The Big Three automakers are [scheduled to appear before the Senate Banking Committee](http://www.nytimes.com/2008/11/17/business/economy/17uaw.html?ref=business) today to ask Congress to bail-out the struggling industry. America’s car companies are in trouble and the health care crisis is at least partly to blame. For General Motors, health care costs add [$1,525 to the price of every car that leaves the lot](http://www.americanprogress.org/issues/2007/05/health_numbers.html) and the company estimates that it spent $5.2 billion on health care benefits in 2004, [which is] more than it paid for steel. The argument that automakers will benefit from a system of universal coverage in which the government, the employer, and the individual share the costs of health insurance is fairly obvious. Since General Motors spends $71 per worker per hour on health care and Toyota spends only $47, we might consider the Japanese public-private model of health care. Japanese companies aren’t burdened by aging retirees straining company profits. In Japan, everyone is required to enroll in a public or private employer-sponsored plan, and the government [spends half as much on health care as the United States](http://www.npr.org/templates/story/story.php?storyId=89626309)to provide care for everyone. While the Japanese government negotiates a fixed price for every procedure and every drug with the health industry to keep costs low and requires private insurance companies to offer everyone coverage, the American system lacks electronic medical records, effective comparative effectiveness research of new technologies, and broad-based access to preventive care. In Japan, every citizen is covered while in America, care for the uninsured adds an average $922 to family health insurance premiums. In short, our fractured health care system inflates health care costs and expects businesses to pick-up the tab. This is not a ringing endorsement of the Japanese model, it has its share of problems. Hospitals and doctors are underpaid and the system may face insolvency due to a rapidly aging population. But for all its kinks, the Japanese system is grounded on the progressive theory that we can lower costs by covering everyone and adopting certain cost-containment initiatives. Japanese manufacturers are competitive in part because they are not burdened by a draconian health care system that does nothing to control health care costs or increase access to care. In America, however, the current state of automobile companies represents the cost of inaction on health care reform.

#### Fortunately, imposition of price controls reverses this problem – Michael Fischer indicates that:

Joy Li-Yueh Lee, MS; Michael A. Fischer, MD, MS; William H. Shrank, MD, MSHS; Jennifer M. Polinski, ScD, MPH; and Niteesh K. Choudhry, MD, PhD, “A Systematic Review of Reference Pricing: Implications for US Prescription Drug Spending”, Harvard University, <https://scholar.harvard.edu/nkc/files/2012_reference_pricing_systematic_review_ajmc.pdf>, Date Accessed 10-30-2018 // JM

Reference price policies significantly decreased both patient and payer expenditures (Table 3). Three studies that evaluated changes in patient expenditures found out-ofpocket savings ranging from 12% to 18% per month. The 4 studies that reported the impact of reference pricing on payer expenditures found reductions of 14% to [by] 52% on targeted drug classes. These correspond to per capita savings of $81 to $650.26. Although the policies reduced payer spending, the 3 studies that evaluated the effects of reference pricing on hospitalizations and physician visits found no significant changes in these outcomes. While Schneeweiss et al found a temporary 11% (95% confidence interval [CI] 1.07-1.15) increase in physician visits shortly after British Columbia’s ACE inhibitor policy went into effect, perhaps as a result of patients visiting their physicians to switch to reference products, 3 to 10 months after the policy, there were no significant changes in physician visits compared with baseline, –3% (95% CI 0.86-0.91).22 The analysis by Schneeweiss et al of a reference pricing program for calcium channel blockers also revealed non-significant changes in physician visits and hospitalizations shortly after the implementation of the policy (95% CI 1.00-1.03 and 0.89-1.06), followed by significant decreases (4% and 15% respectively, 95% CI 0.95-0.98 and 0.79-0.93) at 3 to 10 months after implementation. The evaluation by Hazlet and Blough of British Columbia’s H2 antagonist policy found very similar results.18,24,25 Only 1 study directly evaluated the impact of reference pricing on clinical end points, and found non-significant differences in cardiovascular death rates between users exposed to reference pricing for ACE inhibitors, calcium channel blockers, and nitrates and those who were not (P = .11).16

#### That’s absolutely vital because Bruce Dixon concludes that:

Bruce A. Dixon, 11-19-2008, Managing Editor of the Black Agenda Report, State Committee Member of the Georgia Green Party, “Single Payer Health Care and the Auto Industry”, , <http://www.nathanielturner.com/singlepayerhealthcareandautoindustry.htm>, Date Accessed 10-30-2018 // JM

The US auto industry is in deep trouble. There's no room for doubt about that. But there are plenty of reasons to disbelieve the explanations of and doubt the possible solutions to the crisis put forth by our bipartisan political elite, their mouthpieces in the corporate media and public office. The media and politicians have exhibited amazing discipline in that few of the analyses and none of the solutions advanced in the mainstream media take into account the competitive advantage of universal free health care enjoyed by auto makers in Canada, Japan and Western Europe. The biggest difference between US and foreign auto production is that only US automakers are saddled with the burden of paying the health care costs of current workers and retirees. To make matters worse, beginning in the Reagan administration, federal laws allowed automakers to spend their employee pension funds on executive bonuses and bad investments and not repay them. After three decades of executive raids on the money that should pay for pensions and medical care, there is nothing left. GM alone has at least $5 billion in unpayable pension and medical liabilities, money it deducted from worker paychecks for decades and promised to prudently invest and safeguard but instead spent. What well-disciplined mainstream pundits never mention is that more than any other single factor over the last thirty-five years, the drive to avoid paying medical benefits for its current and retired workers has shaped the US auto industry's decisions about which plants to open and close and where to locate its new operations. When foreign automakers began locating plants in the US in the 1980s they enjoyed a competitive edge over US production lines located in Michigan, Ohio, Indiana, Wisconsin and Illinois for a generation because their younger workforces had fewer medical bills and they had no retired workers to pay pensions and medical benefits for. GM, Ford and Chrysler learned that lesson quickly and well. They abandoned nearly every assembly plant open thirty years or longer, not because machinery and production methods couldn't be modernized, but to cut the number of workers in their forties and fifties, who use their medical coverage significantly more than workers in their twenties, and to stop new retirees coming online for whose pensions and medical bills they would be liable. Of course the US auto industry could have produced greener cars in greener plants. They should have invested more in hybrid, electric vehicle and fuel cell technologies. They might have used their marketing muscle to create demand for smaller cars instead of SUVs. But why should they? Foreign automakers haven't done much better at any of these things either, especially in the US market. And apart from health care expenses, many foreign and Canadian auto workers are paid as much or more than their US counterparts. So none of these serve to explain why foreign automakers have out-competed the US for a generation. The big difference that establishment politicians turn a blind eye to, and media pundits refuse to mention in print or on the air has always been government-paid universal health care as a human right in Europe and Japan compared to a health care system in the hands of private for-profit insurers in the US. Universal free health care is the secret competitive weapon of the Japanese, Canadian and European [other] auto industries. Unless and until this competitive advantage is equalized, manufacturing automobiles and practically everything else will be far more expensive inside the US than outside it. No amount of money thrown at the auto industry can solve that, and without medical and retirement expenses, foreign automakers are guaranteed to have the extra cash to match and beat anything US automakers invest in innovative green technologies.

#### Short term savings are whats needed to invest in new technology as Chris Isidore explains that:

Chris Isidore, 5-16-2017, Senior Writer at CNN Money, Former Correspondent for the Transportation of the Journal of Commerce, “Auto Sales Are Slowing, and Upheaval Is Next”, <http://money.cnn.com/2017/05/16/news/companies/auto-industry-challenges/index.html>, Date Accessed 10-30-2018 // JM

The U.S. auto boom that fueled record sales and profits is winding down. Next up: A radical transformation that could threaten the survival of some automakers. "The auto industry is changing more today than it has in the past 50 years," General Motors CEO Mary Barra has said publicly -- more than once. "I don't make this claim lightly," she said. "I believe we are on the verge of a revolution in personal transportation." It's true that the U.S. auto sector had a close call during the 2008 financial crisis, when both GM (GM) and Chrysler needed federal bailouts to survive bankruptcy. But that was a pretty straightforward crisis, caused by excess labor costs and a plunge in auto sales due to a wrecked economy. The challenge today is posed by electric and self-driving cars, and it is far more fundamental. Automakers are investing billions to develop these new vehicles. At the same time, they're facing a tremendous competitive threat from upstarts like Tesla (TSLA) and Uber, as well as from tech giants with deep pockets such as Google (GOOGL) and Apple (AAPL). "We're at a major crossroads in the industry," said Michelle Krebs, analyst with AutoTrader. "The nature of the vehicles will be different. The models by which we acquire transportation could be completely different." She compares the environment to the 1960s, when Japanese imports like Toyota (TM) and Honda (HMC) disrupted the industry. And with all of these changes comes belt-tightening. Related: Ford gets ready to cut jobs Late last month, Ford (F) disclosed that it may have to slash $3 billion in costs in order to free up money to invest in new technology. There were reports this week that in order to do so, the automaker may trim its global work force by about 10%, or as many as 20,000 jobs. "If automakers are going to stay around, they have to be investing in these new technologies," said Krebs. "And it's difficult because there's no payback yet, and no time frame for when there will be."

#### The impact to new tech is huge because Bob Berwyn indicates in 2017 that:

Bob Berwyn, 6-2-2017, "Technology Transfer Could Drive Down Global CO2 Emissions by 25 Percent," Pacific Standard, https://psmag.com/social-justice/new-research-says-tech-transfer-cut-emissions-25-percent, Date Accessed 10-30-2018 // JM

The new research, published on May 26th in the journal [Resource and Energy Economics](http://www.sciencedirect.com/science/article/pii/S0928765516302123), looked at the entire value chain, from mining to manufacturing, distribution and end use. For example, for automobiles, that includes the production of the raw steel and rubber, then the various components of the cars. Researchers from Helmut Schmidt University in Hamburg and the Zuse Institute in Berlin also contributed. The study identified where technological improvements would do the most good in terms of carbon reduction, including metal processing and the production of chemicals. Using carbon-efficient machines is one quick-fix carbon reduction scheme, and offers some short-term relief from the pressure to transform energy systems—"a cost-effective way to limit dangerous climate change," Ward says. "This [research] shows that it is fully possible to reduce global CO2 emissions substantially with existing technologies, without having to change consumption patterns dramatically," says Norwegian climate economist Knut Einar Rosendahl, who was not involved in the study.

#### Adam Vaughan terminalizes this in 2009 that:

Adam Vaughan, 5-12-2009, "Cleaner air from reduced emissions could save millions of lives, says report," Guardian, [https://www.theguardian.com/environment/2009/may/12/emissions-pollution-premature-deaths, Date Accessed 8-21-2018 // WS](https://www.theguardian.com/environment/2009/may/12/emissions-pollution-premature-deaths%2C%20Date%20Accessed%208-21-2018%20//%20WS)
Tackling climate change by cutting greenhouse gas emissions could save millions of lives because of the cleaner air that would result, according to a recent study. Researchers predict that by 2050, about 100 million premature deaths caused by respiratory health problems linked to air pollution could be avoided through measures such as low emission cars. The economic benefits of saving those lives in developing countries such as China and India could also strengthen the negotiating hand of the UK and Europe at a crucial UN climate summit in Copenhagen this December. Johannes Bollen, one of the authors of the report for the Netherlands Environment Agency, said the **[approximately] 100 million early deaths could be prevented by cutting global emissions by 50% by 2050[.]**,a target consistent with those being considered internationally. The reports warns that if governments continue with business-as-usual energy use, then population growth, ageing demographics and increased urbanisation will cause premature deaths from pollution to increase by 30% in OECD countries, and 100% outside the OECD. The study also has implications for which technologies are chosen to reduce CO2 and other greenhouse gases. The study points out that while carbon capture and storage technology can capture CO2, it does not usually trap other air pollutants. Last month, the energy and climate minister, Ed Miliband, put "clean coal" at the centre of UK energy policy by pledging no new coal-fired power stations would be built without at least partial CCS.