

Examining Frameworks to Address Future Pandemic Risk

**United States Senate Committee on
Banking, Housing and Urban Affairs
Subcommittee on Securities, Insurance
and Investment**

Testimony of

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Thank you, Chairman Menendez, Ranking Member Scott and members of the Committee.

My name is Robert Hartwig and I am a Professor of Risk Management, Insurance and Finance at the University of South Carolina's Darla Moore School of Business. I also serve as Director of the School's Risk and Uncertainty Management Center.¹ Prior to joining USC, I spent 23 years in the property/casualty insurance and reinsurance industries, the last decade of that as President and Economist of the Insurance Information Institute, an international property/casualty insurance trade association based in New York City. During that time, I have had the opportunity to work on wide variety of issues related to the industry's exposure to catastrophic loss and its financial performance during periods of economic uncertainty. I've also had the pleasure of testifying before this Committee on a number of past occasions.

I have been asked by the Committee to provide testimony on the impacts of the COVID-19 pandemic, challenges related to the insurability of pandemic risk and to discuss public policy approaches to future pandemics as well potential consequences of those approaches. For the purposes of my testimony, I will address the following issues:

- (i) The scale, scope and complexity of pandemic risk;
- (ii) The parameters and limits to insurability as they apply to pandemic risk;
- (iii) The unique and essential role of government in managing pandemic risk;
- (iv) Critical distinctions between private insurance and public policy responses to managing pandemic risks;
- (v) Provide an analysis of solutions for managing pandemic risk

Overview: The Scale, Scope and Complexity of Pandemic Risk

The COVID-19 pandemic's twin tolls on human health and the global economy are among the greatest in history. As of mid-2021, the virus had claimed nearly four million lives worldwide and sickened upwards of 180 million, according to the World

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Health Organization.² Included within this grim tally are more than 600,000 deaths in the United States alone, and a total of 33 million confirmed cases.³ Yet despite the epic nature of this tragedy, the public health crisis precipitated by the COVID-19 pandemic was brought to heel by a singular solution—the rapid development, distribution and mass administration of vaccines on a planetary scale. In contrast, the solution to many of the ongoing economic dislocations precipitated by the pandemic remains uncertain, elusive and politically fraught despite trillions of dollars in fiscal and monetary stimulus.

Scale

Figure 1 and Figure 2 make clear that the signature economic consequence of the COVID-19 pandemic was a massive and abrupt collapse in economic activity. Real GDP in the United States plunged by nearly one-third during the second quarter of 2020, with spending by consumers (who account for nearly 70 percent of GDP) driving the majority of that drop. Likewise, business investment, which accounts for nearly 20 percent of GDP, simultaneously plummeted by nearly 30 percent. The snarling of global supply chains amid the pandemic and a worldwide recession also led to a sharp drop in net exports. Indeed, the only major component of GDP to grow amid the economic collapse during the first half of 2020 was government spending. In short, COVID delivered a severe macroeconomic shock, triggering economic shockwaves that reverberate to this day—unemployment, business insolvencies, supply chain disruptions, asset price volatility and inflation to name just a few.

COVID-19's economic losses were obviously not bounded by national borders nor by the calendar. With the global economy shrinking by 3.3 percent in 2020, the International Monetary Fund has estimated that COVID-19's global economic toll will reach many trillions of dollars.^{4,5} Looking ahead, science tells us that pandemic risks are intensifying as globalization and urbanization proceed apace, potentially costing as much as \$23.5 trillion over the next 30 years.⁶ In short, costly future pandemics are a certainty. It is also a certainty that the macroeconomic consequences of pandemics are not privately insurable. For example, a one-third decline in GDP on an annualized basis equates to approximately \$7 trillion in

² World Health Organization Coronavirus Dashboard, accessed June 21, 2021 at: <https://covid19.who.int/>.

³ Centers for Disease Control and Prevention as of June 30, 2021.

⁴ International Monetary Fund. *World Economic Outlook* (April 2021). Accessed at: <https://www.imf.org/external/datamapper/datasets/WEO>

⁵ International Monetary Fund. "The Great Lockdown: Worst Economic Downturn Since the Great Depression, April 14, 2020, accessed at: <https://blogs.imf.org/2020/04/14/the-great-lockdown-worst-economic-downturn-since-the-great-depression/>

⁶ Hilsenrath, J. "Global Viral Outbreaks Like Coronavirus, Once Rare, Will Become More Common." *Wall Street Journal*, March 6, 2020.

economic activity. This figure is nearly eight times larger than the policyholder surplus (capital) backing the entire U.S. property-casualty insurance industry.

Beyond GDP: Peeling the Onion of Pandemic Economics

GDP provides an excellent aggregate measure of the dollar magnitude of COVID's impact on the economy. The data confirm that the pandemic pushed American families and businesses to radically and rapidly reduce spending by trillions of dollars. But each dollar not spent represents a loss of income to another family or business elsewhere in the economy. The true economic pain from COVID is most acutely felt in terms of this collapse in income. As such, optimal public policy responses will seek to target such disruptions, providing relief to affected wage earners and businesses while simultaneously stabilizing and supporting aggregate demand in the macroeconomy. Macroeconomic stabilization policy has always been the domain of federal government. The delineation between the role of government and private insurers is discussed in more detail later in this testimony, with a special focus on disruptions in business income. Consider for the moment, however, that potential economy-wide business interruption losses at the height of the pandemic were estimated at as much as \$1 trillion per month—a sum that is more than 200 times the \$4.5 billion in monthly premium collected for all commercial property lines of insurance.

Viewed broadly, it is clear that there are many “layers” of pandemic loss, many of which each require specific public policy solutions. Included among the most critical layers of loss are:

- Mass unemployment and wage loss → Household cashflow losses
- Structural unemployment and skill loss/mismatch
- Business cash flow loss/interruptions
- Solvency threats for business and households
- Liability losses
- Worker health and safety losses
- Financial market losses
- Supply chain disruptions and ensuing losses
- Inflation and the loss of purchasing power
- Mortality and morbidity (health)-related losses
- Contingency losses (e.g., event cancellation)
- Travel disruption
- Widening income inequality

Several of the key layers of loss are discussed below:

Worker Income and Unemployment

According to the U.S. Bureau of Labor Statistics, wages and salaries paid to nonfarm workers fell by \$617 billion in Q2 2020, a plunge of 6.5 percent, the largest single quarterly drop since the federal government began collecting this statistic in 1947.⁷ Similarly, U.S. Bureau of Economic Analysis data show that real personal income less transfer payments (such as stimulus checks) fell by \$1.2 trillion or 9.1 percent on an annualized basis early in the pandemic. This unprecedented drop in wages, salaries and income is a direct consequence of soaring unemployment—which skyrocketed from 3.5 percent in February 2020 to 14.8 percent just two months later (Figure 3), reflecting the loss of some 22.4 million jobs, 6.8 million of which have yet to be recovered as of June 2021.⁸ Clearly, provisions for addressing mass unemployment and the ensuing loss of income are critical components of any comprehensive public policy response to future pandemics. Indeed, most advanced economies have long-standing social insurance schemes in place to manage unemployment risks. These programs, supplemented by additional targeted resources during the COVID-19 pandemic, generally performed well, providing tens of millions of affected workers with income sufficient to cover their basic financial needs.

Business Income

Business income was also materially impacted by COVID. Potential business income losses at the height of the pandemic were estimated to be as much as \$1 trillion per month (Figure 4), reflecting primarily the massive and sudden drop off in consumer spending as well as the inability to spend because of mandated closures and other legal restrictions.⁹ It is worth noting that small businesses bore a disproportionate share of the business income losses. Businesses with fewer than 500 employees were estimated to have potentially sustained income losses between \$393 billion and \$668 billion per month early in the pandemic.¹⁰ As with the loss of worker income due to mass unemployment, addressing the loss of business income in future pandemics is necessarily a priority.

Business Income Losses: Consumer Decisions to Disengage from Commerce

⁷ U.S. Bureau of Economic Analysis; Federal Reserve Bank of St. Louis. Data are on an annualized basis. Accessed July 14, 2021 at: <https://fred.stlouisfed.org/series/WASCUR>.

⁸ U.S. Bureau of Labor Statistics. Accessed July 14, 2021 at: <https://data.bls.gov/cgi-bin/surveymost>.

⁹ Hartwig, R. and Gordon, R., “Uninsurability of Mass Market Business Continuity Risks from Viral Pandemics,” American Property Casualty Insurance Association, June 2020. Accessed at: <https://www.uscriskcenter.com/presentations/uninsurability-of-mass-market-business-continuity-risks-from-viral-pandemics/>

¹⁰ American Property Casualty Insurance Association estimate (April 2020).

Public policy solutions designed to address business income loss from pandemics must recognize the particularly nuanced nature of this category of loss. A National Bureau of Economic Research study found that small businesses and their owners experienced unprecedented disruptions of up to a 40 percent drop in revenues and consumption in the early phases of the COVID-19 pandemic, and through May 2020 the majority of the average decline is found to be due to nationwide factors rather than local infection rates and state-level policies like shelter in place orders.¹¹ In other words, a substantial share of the income loss experienced by businesses was associated with factors that transcended state borders, such as fear of contracting COVID-19.

This finding is consistent with additional research suggesting that the “vast majority” of the reduction in consumer visits to businesses was driven by voluntary decisions by consumers to “disengage from commerce,” not—as is commonly presumed—government-imposed restrictions on activity.¹² Specifically, consumer visits to business fell by 60 percent during the first few months of the pandemic, yet only 7 percent of the decline is attributable to legal restrictions. Crucially, though the shutdown orders had little aggregate impact, they did have a significant effect on “reallocating consumer visits from ‘nonessential’ to ‘essential’ businesses.” As an example, restaurants and bars (which were universally deemed as ‘nonessential’) experienced a decline of nearly 30 percent in consumer visits, while non-restaurant food and beverage stores benefitted from a 27 percent *increase* in visits.

These important research findings have very important public policy implications in terms of how future pandemic relief programs should be designed to provide maximum support to business, small businesses in particular. Moreover, these same findings—which suggest that much of the income loss sustained by small businesses in particular was the result of avoidance behaviors by consumers—combined with the sheer magnitude of losses discussed in the previous section, provide insights on the practical impossibility of privately insuring against shifts in the macroeconomic activity, particularly with respect to collapses in aggregate demand that adversely impact business income.

The practical impossibility of privately insuring against business income losses arising from pandemics is explored in more detail in the next section, which

¹¹ National Bureau of Economic Research, NBER Working Paper Series, *Revenue Collapses and the Consumption of Small Business Owners in the Early Stages of the COVID-19 Pandemic*, Olivia S. Kim, Jonathan A. Parker, Antoinette Schoar, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3739648.

¹² Goolsbee, A. and Syverson, C. 2021. *Fear, Lockdown, and Diversion: Comparing Drivers of Pandemic Economic Decline 2020*. Journal of Public Economics. 193 (104311).

provides a detailed discussion of the generally accepted criteria that define insurability.

The Role of Government and the Bounds of Insurability

Financing Pandemic Losses: What Makes Government Unique?

That government must play the lead role in combating the large-scale economic dislocations arising from pandemics is clear, with the private sector playing many critical supporting roles. Government involvement is required not only because the cost of mitigating against the economic consequences of pandemics is measured in the trillions of dollars, far exceeding the resources of private industry, but also because of government's unique ability to tax, borrow and spread costs and risk across time. During the early weeks and months of the pandemic, Congress fulfilled this duty, passing legislation providing \$2.4 trillion in emergency pandemic relief by the end of March 2020 (Figure 5). Within one year of the pandemic's onset in the United States, Congress had passed six major relief bills, providing more than \$5.7 trillion in pandemic aid to American families and business owners. Virtually all of this spending is financed through borrowing on a scale unimaginable on the private sector. Between 2019:Q4 and 2021:Q1, the total public debt of the federal government grew by \$4.93 trillion, an increase of 21.3 percent.¹³ Only government—with its unique authority to tax—can shift and spread expenditures of this magnitude over time.

Challenges to the Insurability of Pandemic Risks: The Case of Business Income

Insuring against business continuity losses from pandemics poses a particular set of challenges to insurers that collectively render the risk uninsurable in private insurance markets on a large scale. Potential losses can easily exceed the industry's capital, surplus and premium resources, posing a systemic risk to the industry and the overall economy. Because virtually all businesses may sustain losses simultaneously and continuously over the span of many months, the ability to spread risk—a function essential to the smooth operation of insurance markets—is severely compromised. Frequency and severity of losses cannot be precisely modeled because of a lack of historical data, creating an insurmountable obstacle to accurate pricing. Further, business income-related pandemic losses are correlated with both financial market losses and other insurance losses, so insurers cannot mitigate pandemic-related business continuity losses through

¹³ U.S. Department of the Treasury; Federal Reserve Bank of St. Louis. Accessed July 13, 2021 at: <https://fred.stlouisfed.org/graph/?id=GFDEBTN>. Over the same period, public debt as a share of GDP increased from 106.7 percent to 127.5 percent.

diversification. Fear of additional economic losses from COVID-19 variants continues to cause financial market turmoil to this day.¹⁴ Consequently, it is unlikely that private insurance markets will be able to offer affordable, widely-available commercial insurance products that insure against business continuity risks from pandemics. Comprehensive government programs designed to directly address large scale business continuity losses from pandemic are necessary to address this risk prospectively and could, over time, potentially encourage the innovation of limited specialized pandemic coverages by private insurers and reinsurers.

Business Continuity Coverage: Purpose and Function

It is critical to note that business income coverage is not today and has never been intended to function as an extension of government macroeconomic stabilization policy. Simply stated, business income insurance is an optional coverage available to businesses purchasing commercial property insurance, the terms of which are dictated by very precise and legally binding contract language. Specifically, business income payments are triggered if and only if there is direct physical loss of or damage to insured property *and* such loss or damage is caused by a covered cause of loss.¹⁵ During the early stages of the pandemic, misunderstandings on the part of some businessowners—and confusion sown by some plaintiff attorneys—led to thousands of lawsuits against insurers contending that the loss of income suffered by businesses was covered under such policies. Overwhelmingly, courts have rejected these arguments, citing the lack of direct physical loss or damage to covered property. It is worth noting that even prior to the pandemic, the vast majority of business income policies included explicit virus exclusions. Such coverage was not priced and no premium was collected for it.

Why Pandemic Risks Are Inherently Uninsurable

Pandemic risk differs significantly from other types of disasters such as hurricanes, tornados and wildfires. Each of these natural disasters impacts a limited number of policyholders for a limited period of time. The property and business continuity losses associated with hurricanes, for example, are largely a coastal phenomenon with damaging winds typically dissipating over the span of hours. In contrast, business continuity losses arising from pandemics, by definition, have the potential to impact virtually all policyholders, irrespective of location and nearly simultaneously, with losses continuing over the span of months or even years. The resulting accumulation of losses of the many (rather than the few) prevents the

¹⁴On July 19, 2021, the Dow Jones Industrial Average tumbled 725 points (2.1%), the largest drop since October 2020, while simultaneously the yield on the 10-year U.S. Treasury note fell to 1.181%, its lowest close since February 2021. See Hirtenstein, A., “Bond Yields Sink to February Lows as Growth Fears Mount,” *Wall Street Journal*, accessed July 19, 2021 at: <https://www.wsj.com/articles/bond-yields-sink-to-february-lows-as-growth-fears-mount-11626701771>.

¹⁵ ISO Business Income (and Extra Expense) Coverage form CP 00 30 04 02.

pooling and redistribution of those losses, as essentially all policyholders are impacted. Stated differently, pandemic risk cannot be spread, shared or diversified across policyholders. Given the characteristics of pandemic losses and their financial impact on world economies, insurers and reinsurers will likely have no alternative but to continue to be unable to provide coverage for virtually all future pandemic exposures from insurance policies and reinsurance treaties.¹⁶ These financial and underwriting obstacles underscore the near impossibility of commercially insuring pandemic risk.

A growing body of research confirms what insurers already knew—that pandemic risks are, in general, not commercially insurable. Examples include:

- A May 2021 report from the Wharton Risk Center asserts that *“The scale, correlations, and complexity of pandemic risk, as evidenced by ongoing COVID-19 losses, far exceeds traditional parameters that define the concept of insurability for private insurers and reinsurers...”*¹⁷
- An April 2021 study by the Geneva Association, concludes that *“Pandemic business continuity risk was, in general, never possible nor intended to be covered by the private-sector insurance market.”*¹⁸
- A September 2020 in the Geneva Risk and Insurance Review examines the virtually non-existent history of pandemic insurance products, finding that *“...unlike other economically destructive natural phenomena such as hurricanes, earthquakes and wildfires, the losses from which are substantively financed by private insurers, very little private insurance exists to manage the financial consequences of pandemic risk. Indeed, very few products have ever been brought to market by private property-casualty insurers.”*¹⁹

¹⁶ Insurers may exclude coverage for viral pandemics either by adopting an exclusion endorsement or by not specifically identifying viral pandemics as covered exposures within the “four corners” of the insurance contract. Irrespective of the presence of an exclusion for viral pandemics, the principle that an exposure outside the description of covered risks still applies.

¹⁷ Kunreuther, H. and Schupp, J., “Framework for Evaluating the Role of Insurance in Managing Risk of Future Pandemics,” Wharton Risk Center, University of Pennsylvania, May 2021.

¹⁸ Schanz, K., “Public-Private Solutions to Pandemic Risk: Opportunities, Challenges and Trade-Offs,” The Geneva Association, April 2021. Accessed at:

https://www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf_public/pandemic_risks_report_web.pdf

¹⁹ Hartwig, R., Niehaus, G. and Qiu, J. 2020. *Insurance for Economic Losses Caused by Pandemics*. Geneva Risk and Insurance Review. 45 (2).

Criteria for Insurability

The insurability of risk traditionally rests upon six criteria, summarized in Figure 6 and listed below:²⁰

- i. A risk must consist of a large number of exposure units so that the losses of the few can be distributed across the entire population of policyholders.
- ii. Losses must be accidental/random and unintentional in nature.
- iii. Losses must be determinable and measurable, enabling accurate and timely adjustment.
- iv. Losses cannot be exceedingly catastrophic or financially ruinous to the risk pool as a whole.
- v. The probability of loss must be calculable, which is necessary for the proper modeling and pricing of risk.
- vi. The premium charged by insurers to transfer the risk of loss must be economically affordable.

The inability of a risk to meet one or more of these criteria reduces or eliminates its insurability. Pandemic risk violates all six criteria. In technical terms, the violation of these criteria prevents the pooling and redistribution of the losses of the few across the many. In terms of business continuity risk specifically, pandemics produce risks that are undiversifiable, unquantifiable, potentially ruinous, unaffordable and—importantly—intentionally created.

Figure 6 makes clear that the extreme uncertainty associated with pandemic events is inconsistent with several of the basic requirements of insurability. Pandemics are infrequent events of unknown duration and severity. Current estimates of COVID-19's economic impact vary by trillions of dollars, while estimates of potential insured losses vary by billions of dollars. Actuarial models used to estimate claim frequency and severity, establish claim reserves and determine premiums rely heavily on historical data, which is essentially non-existent in the context of pandemics. Because insurers lack even the most basic information necessary to measure and price pandemic risk, pandemics remain largely uninsurable in the private sector.

²⁰ Rejda, G. and M. McNamara. (2017). *Principles of Risk Management and Insurance*. (13th edition). Pearson.

While the ultimate economic and insured losses for COVID-19 will remain uncertain for years to come, there is universal agreement that those costs are extremely high largely because pandemics threaten virtually all members of the risk pool (i.e., all businesses) simultaneously. As noted in Figure 6, if the probability of a claim is near certainty, the premium charged will be unaffordably high—likely approaching or even exceeding the expected loss itself.

Insurability also requires that the risk be fortuitous in nature. Fortuity implies that losses are accidental or random and unintentional. While pandemics are naturally occurring events, decisions to close millions of businesses and severely restrict the movement of people are intentional and deliberate, resulting in trillions of dollars in economic loss. Likewise, the decision by consumers to withdraw from economic activity based on fear of contracting disease is an individual choice. Insurers can only assume that governments and consumers will make similar decisions during future pandemic events (including severe outbreaks of COVID-19 variants). Likewise, decisions by state and local governments on when and how to reopen their economies and by millions of individual business owners and customers about when and how to reengage in economic activity are also deliberate. These deliberate decisions account for the majority of economic losses arising from the COVID-19 pandemic. In other words, virtually none of the business income losses sustained during the pandemic were the result of direct physical loss or damage to property from a covered cause of loss. Unless business income losses are triggered as such, the losses are beyond the scope of business interruption policies and are not covered.

Government's Role

Society has a vested interest in mitigating and compensating pandemic losses and a private market alone cannot provide sufficient insurance coverage. During COVID-19, governments around the world actively provided significant financial resources to businesses and individuals, with the intent to protect employment, income and to avoid bankruptcies. Additional aid in the form of monetary stimulus was applied in order to maintain financial market stability, ensure access to credit and keep interest rates low. Of course, not all government actions adopted during COVID were successful, nor will all be suitable to pandemics in the indeterminate future. The next section outlines four general approaches available to government to facilitate and support the sharing of pandemic risk. That is followed by a summary of several programs proposed during the COVID-19 pandemic to address future pandemic risks. The section concludes with review of challenges each program is likely to face and a broader questioning of the utility of such programs given the success of tradition government macroeconomic stabilization programs.

Four General Approaches to Government Involvement²¹

1. Provide Post-Event Aid: Under this approach, government essentially reacts to a pandemic event as it is occurring and allocates resources to the entities affected by the pandemic. The necessary funds are borrowed, which essentially places the cost burden on current and future taxpayers. Most governments around the world managed the COVID-19 pandemic using the post-event aid approach.
2. Provide Reinsurance: Prior to a pandemic event, a government could provide reinsurance to private insurers that sell primary pandemic coverage to businesses. The reinsurance coverage would be for losses above a designated threshold and would have a designated limit and might contain a co-share provision. The government reinsurer would reimburse insurers based on the terms of the reinsurance contract. Although the government reinsurer could have accumulated some resources during periods without an event, a major pandemic would likely require significant government borrowing with tax payments to support the debt.
3. Provide Insurance: The government could provide voluntary insurance coverage directly to those who are exposed to pandemic risk. The government insurer would collect premiums and be authorized to borrow funds in case a pandemic occurs prior to accumulation of sufficient premiums. This approach would require the government to either create the organizational structure to market the insurance directly to insureds or pay commissions to existing marketing entities in the private insurance industry.
4. Provide Social Insurance: With a social insurance scheme, many or all entities would be required to participate, which entitles the entities to receive benefits contingent on an event. Typically, participants would be required to make pre-event payments, usually in the form of a tax. An administrative system would be needed to process and pay the contingent benefits. Benefits paid from a social insurance system and pre-event payments typically would increase with potential losses, but they could be capped at a relatively modest level of potential losses. The typical goal would be to provide modest coverage for a broad spectrum of population. Unemployment insurance in the U.S. is a familiar example of a social insurance mechanism that played an important role during the COVID-19 pandemic.

²¹ See footnote 18.

Recent Proposed Approaches

A number of specific pandemic insurance solutions involving the participation of private insurers (and reinsurers) were introduced during the pandemic. While none have been implemented, they remain a subject of active discussion within the insurance industry and government.

Business Continuity Protection Program (BCPP): The BCPP is among the best-known proposals to emerge during the pandemic and currently has the widest acceptance within the insurance industry. The program would provide businesses with reimbursement of up to 80% of three months revenue. Because the BCPP involves no retention of risk by insurers it is not an insurance product. Instead, commercial insurers would utilize their existing “plumbing” and serve in an administrative capacity. Taxpayers would ultimately bear all losses incurred above accumulated premiums. Coverage is triggered parametrically and payouts determined formulaically, eliminating the need for individual claims adjusting.

Pandemic Risk Insurance Program (PRIA): Inspired by the existing Terrorism Risk Insurance Program (TRIA) implemented after 9/11, PRIA is perhaps the best-known proposal that would require risk bearing on the part of private insurers. Through a combination of retentions, deductibles and co-sharing of losses, insurers have a maximum annual potential exposure of approximately \$50 billion. Losses beyond those retained by insurers are borne by the program (taxpayers) up to the program cap of \$750 billion. A traditional claims adjustment process is used to determine the value of claim payouts. Coverage is triggered by declaration of a public health emergency by the HHS Secretary in response to a pandemic or infectious disease outbreak.

The BCPP and PRIA represent two of the better-known frameworks that would provide for the participation of private insurers in future pandemics. Each potentially provides relief to businesses whose revenues are adversely impacted by those pandemics. Yet no program is without shortcomings. For example, the experience of the COVID-19 pandemic since March 2020, clearly suggests that business income losses can persist far longer than the three months protection provided under the BCPP. In addition, the BCPP’s parametric trigger implies that even businesses experiencing zero actual loss of revenue (or even an increase in revenue) would receive compensation, assuming the business purchased coverage. In the case of PRIA, business income losses could easily (and greatly) exceed the program’s \$750 billion. Moreover, the program’s use of a traditional claims adjustment process could result in millions of claims being filed nearly simultaneously, overwhelming the ability of insurers to adjust them in a timely manner. Participation is another huge unknown. Under both the BCPP and PRIA, the purchase of insurance by businesses is optional. Unless the price of the

insurance is heavily subsidized, it is likely that many—and perhaps most—businesses will forego coverage, especially if business owners believe that other forms of federal aid will become available to them (a well-known problem known as “moral hazard”).

Evaluating the Benefit of Pandemic Risk Insurance Programs

Each of the several pandemic risk insurance programs proposals developed since should be evaluated to assess which would maximize benefits to business affected by future pandemics while minimizing impacts on taxpayers. A more fundamental question to ask is whether any such program is needed at all. Bearing in mind that all of the pandemic insurance frameworks currently under discussion were developed during the very early months of the pandemic, it is worth considering their utility given the benefit of hindsight and nearly 18 months experience in managing the COVID-19 pandemic. A reasonable answer is that no program is needed. This assertion is based on the following observations, most of which were not apparent when current proposals were introduced during the early months of the pandemic:

- Massive fiscal stimulus in the form of \$5.7 trillion in pandemic relief during the first year of the pandemic has succeeded in delivering significant aid to consumers, businesses and entire industries. GDP growth during the third quarter of 2020 surged 33.4 percent. Strong growth has continued into 2021 (see Figure 1) with solid growth forecast for 2022. Likewise, the nation’s unemployment has fallen precipitously, from a peak of 14.8 percent in April 2020 to 5.9 percent in June 2021.
- Aggressive monetary policy has been used in tandem with swiftly implemented, targeted fiscal policies. The potent combination of fiscal and monetary policy both lessened the severity of the economic crisis precipitated by the pandemic and hastened the recovery. Businesses and consumers were provided with significant income support through numerous new, existing and expanded programs. At the same time, businesses and consumer were able to take advantage of lower financing costs driven by the Fed’s unprecedented efforts to keep both short and longer-term interest rates low.
- The government’s public policy approach to the pandemic was not static. Across the six different stimulus packages approved by Congress, adjustments have been made to enhance the performance of various programs based on lessons learned. Likewise, the Fed’s policies have

been tweaked to the benefit of consumers and businesses while also promoting stability in financial markets. Indeed, since losing nearly one-third of its value in March 2020, the S&P 500 has moved sharply upward, reaching a new record high by year-end 2020 and multiple new records so far in 2021.

All of this and much more was accomplished without any federal pandemic insurance program in place. These observations raise doubt as to the utility of any of the proposed pandemic insurance programs. These questions run beyond the fundamental fact that pandemic risk, in general, is not privately insurable.

- Would implementation of any of the currently proposed pandemic insurance programs provide a discernable benefit to businesses beyond those attainable through the aggressive application of targeted fiscal and monetary policies?
- Would implementation of any of the currently proposed pandemic insurance programs provide a discernable benefit to the overall economy beyond those attainable through the aggressive application of targeted fiscal and monetary policies?
- Would the added cost and complexity of an additional relief program, unfamiliar to businesses and insurers alike, be outweighed by the benefits provided?
- What impact would program cost and complexity have on take-up rates?
- How effective would a program be when businesses are not required to participate? Initial participation rates can be expected to be low and would likely fall over the extended period of time until the next major pandemic strikes—a span potentially measured in decades.
- Would the implementation of programs that require insurers to bear pandemic risk adversely impact the price and/or availability or other lines of commercial insurance?
- Should the fact that private insurers have never exhibited any significant interest in underwriting pandemic risk—viewing it as generally uninsurable—be taken into account when considering adoption of a pandemic risk program?

- If existing government programs can be adjusted to reflect the experience of COVID, enhancing their value to consumers, businesses and the overall economy, should those efforts take precedence over efforts to implement an entirely new, untested and inflexible pandemic risk insurance program?

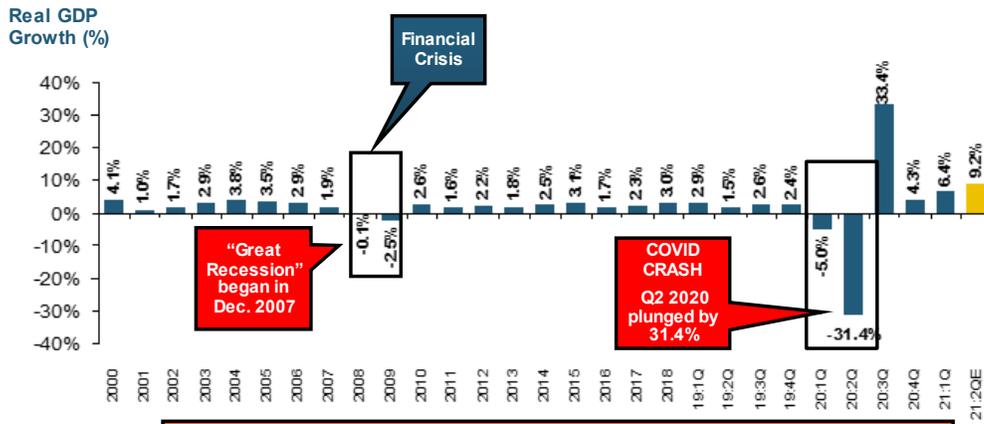
Summary

Large-scale losses arising from pandemics represent an uninsurable category of risk for the private property-casualty insurance industry. The magnitude of potential losses greatly exceeds the claims paying resources of the industry while a lack of historical data impairs the ability of insurers to precisely model the frequency and severity of losses and determine premiums. This problem is exacerbated by the fact that the majority of pandemic losses are driven not by random events, but by the deliberate actions of thousands of public policymakers (who make decisions related to restrictions on economic activity) as well as hundreds of millions of individual consumers and businesses (who make decisions affecting the degree to which they will engage in economic activity during a pandemic). The macroeconomic consequences of these actions are not insurable and potentially pose a systemic risk to the industry as a whole and the economy broadly. Large-scale pandemic risks, which are capable of contributing to significant adverse shifts in economic growth, income and employment are therefore appropriately managed through the application of government policy.

Despite the fact that the generally accepted view is that large-scale pandemic losses are uninsurable in the private sector, a question that has arisen since the beginning of the pandemic is how government should structure a program that would foster the participation of private insurance industry in the management of pandemic risks. Numerous structures were proposed during the first few months of the pandemic and remain under consideration. However, given nearly 18 months experience with COVID, it is clear that the repeated, aggressive application of targeted yet flexible relief in the form of both fiscal and monetary stimulus has been effective in countering many of the most severe negative economic consequences associated with the pandemic. Consequently, the value of instituting a potentially costly, untested pandemic risk insurance program at the current time can reasonably be questioned.

Thank you for you for the opportunity to testify before the Committee today. I would be happy to respond to any questions you may have.

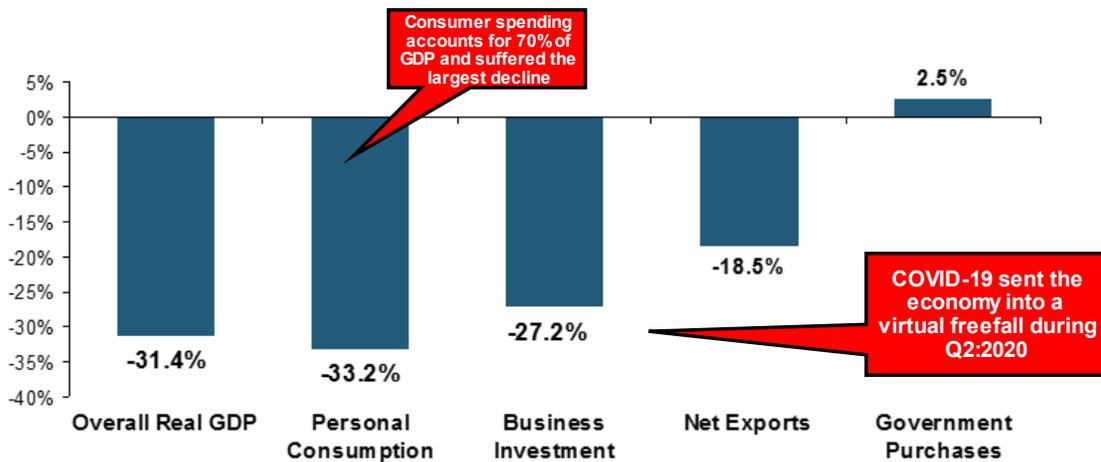
Figure 1: US Real GDP Growth: 2000 – Q2:2021



The Magnitude and Speed of the Economic Collapse Arising from COVID Was Unprecedented in American Economic History, Dwarfing the Experience During the Financial Crisis

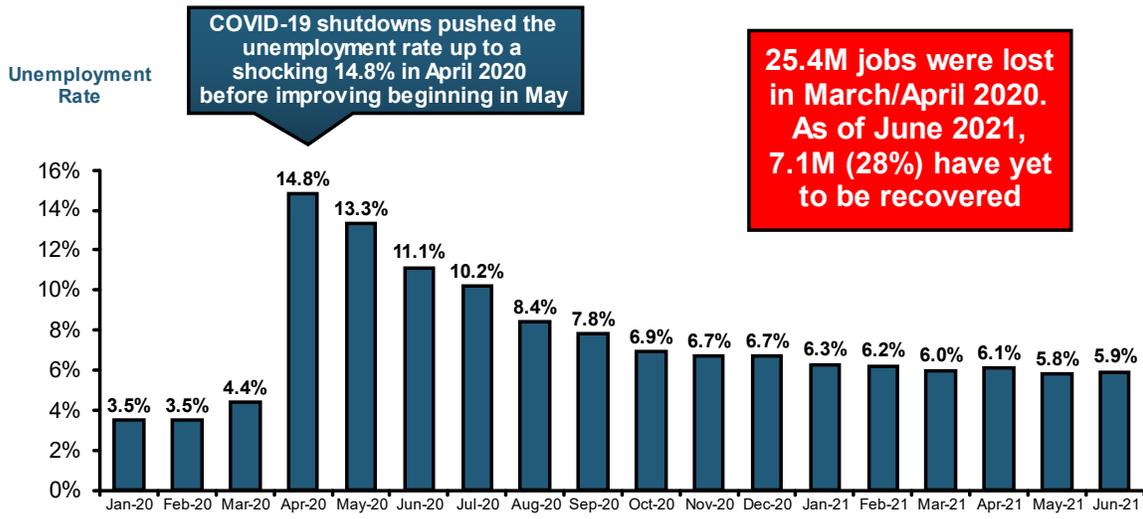
* Estimates/Forecasts from Wells Fargo Securities.
Source: US Department of Commerce, Wells Fargo Securities 7/21; Center for Risk and Uncertainty Management, University of Carolina.

Figure 2: Change in Major Components of Real GDP: Q2:2020 (Peak Quarter of COVID-19 Impact)



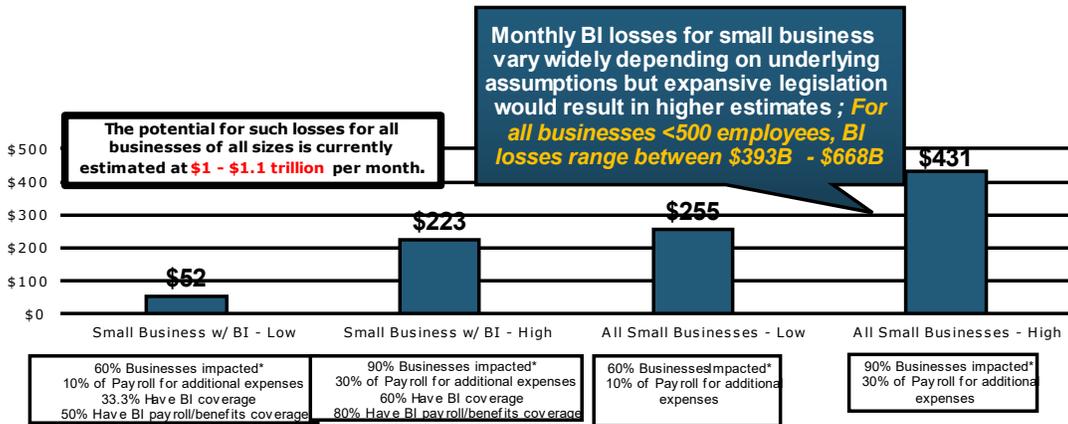
Source: U.S. Department of Commerce; Wells Fargo Securities (7/21); Risk and Uncertainty Management Center.

Figure 3: Unemployment Rate: Jan. 2020 – June 2021



Source: US Bureau of Labor Statistics; Risk and Uncertainty Management Center, University of South Carolina.

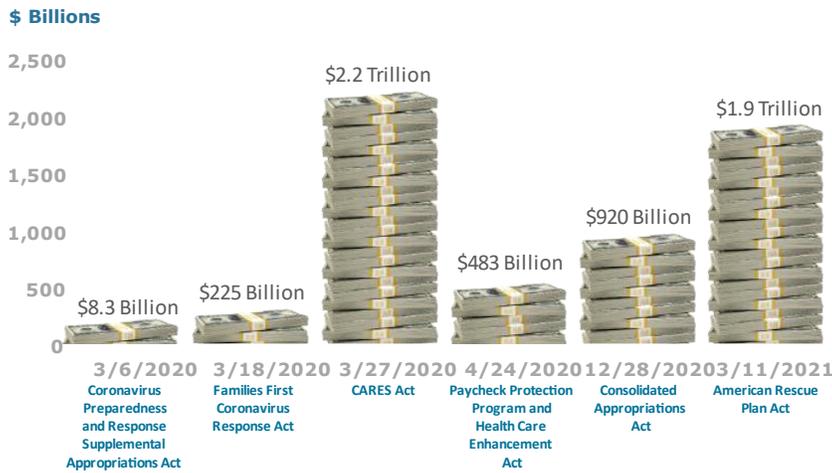
Fig. 4: Estimated Monthly U.S. Business Interruption Coronavirus Losses for Small Business—Potential Range (<100 Employees; \$Bill)



* Businesses impacted: Proportion of businesses completely or substantially closed related to coronavirus
 Assumptions: Losses if standard insurance policy exclusions for viruses/pandemics are voided and physical loss/damage requirement is stricken; t hree main coverages - profit lost, payroll/benefits, additional expenses; average annual \$2m revenue and 7% profit margin; non -wage benefits of small businesses are 25% less than that for average US businesses

Source: APCIA, April 2020.

Figure 5: COVID-19 Stimulus Plans



To date, Congress has passed 6 COVID-19 relief bills, providing as much as \$5.7 trillion in assistance

Figure 6: Pandemic - An Insurable Risk?

Requirements of an Insurable Risk	Requirement Met? Yes/No
1. Large number of exposure units	No. While millions of individual businesses suffered business continuity losses arising from the COVID-19 pandemic, the pandemic's effects were global in scale and nearly simultaneous in scope, effectively reducing the number of exposure units to one—the business sector collectively.
2. Accidental/Random and unintentional loss	No. Pandemics are natural phenomena but the decisions by thousands of policymakers at all levels of government to close millions of businesses and restrict the movement of people was intentional.
3. Determinable and measurable loss	No. For insurers to determine losses, the scale and scope of losses for any given risk must be estimable. Business continuity losses from COVID-19, estimates for which remain highly uncertain and range into the trillions of dollars, are indeterminable due to their dependence on decisions made by thousands of policymakers at all levels of government, the pace at which consumers and businesses reengage in the economy and epidemiological developments.
4. No (ruinous) catastrophic loss	No. Unlike traditional catastrophe risks, pandemics by definition threaten all or most of the members of the risk pool simultaneously. The rapid aggregation of losses is destabilizing and potentially ruinous, threatening the solvency of individual insurers and the industry as a whole.
5. Calculable chance of loss	No. Pandemics have occurred throughout history but the policy response to COVID-19 is without precedent. Insurers traditionally rely on historical loss information and trends to estimate the frequency and severity (cost) for risks they insure. No such historical data exists for the policy response associated with the COVID-19 pandemic, hence premiums cannot be determined.
6. Economically feasible premium	No. Because pandemics by definition threaten all or most of the members of the risk pool simultaneously, the probability of loss is close to certainty. The high probability of loss combined with high claim severities necessarily lead to premiums that can approach or even exceed the cost of the claim itself.