HEALING TRIBAL ECONOMIES

A PROGNOSIS AND PRESCRIPTIONS FOR ECONOMIC RECOVERY FROM COVID-19 IN INDIAN COUNTRY

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To our clients and friends in Indian Country and all working to improve the economic future for Native American people:

KlasRobinson Q.E.D. is pleased to present the accompanying white paper entitled: "Healing Tribal Economies – A Prognosis and Prescriptions for Economic Recovery from COVID-19 in Indian Country." The current COVID-19 pandemic has resulted in unprecedented upheavals in economic conditions in the U.S. and around the globe. Indian country is uniquely vulnerable, both to the disease itself and to the public health measures required to contain its spread. With higher rates of various comorbidity factors, less robust healthcare systems, and dependence on tourism, agriculture, extraction and federal transfers to fund government services, tribes face threats from the pandemic on multiple fronts.

At the same time, information on the course of the virus and estimates of the impacts of its ravages and of the mitigation efforts employed to combat it are limited, incomplete and often contradictory. The disease itself, and the steps taken to fight it, are simply too new and variable to provide clarity and consistency in data and analysis to guide tribal leadership. Nevertheless, the need for immediate action and for planning for long-term recovery forces tribal leaders, like leaders at all levels, to make choices based upon the best information and analysis available, however imperfect it may be.

Within that context, our goal in this white paper is to sift through the various information sources and preliminary predictions being offered and construct a framework for understanding the most likely outcomes and best plans of attack. Our hope is that this work will provide tribes with more than simply another set of predictions, but also the analytical discussion to be able to draw their own conclusions in developing plans for their people and adjust those plans over time as new data becomes available. To do this, we have taken our more than 30 years of experience forecasting future outcomes for more than 250 tribes and applied it to this very troubling situation to give our best estimates and recommendations for tribal economic recovery from COVID-19. One thing we know for sure: as bad as this is, tribal leaders have weathered far more severe storms throughout history and will survive the current crisis to continue to protect their cultures and their people.

KlasRobinson Q.E.D.

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INTRODUCTION

The current COVID-19 pandemic has resulted in unprecedented upheavals in economic conditions in the U.S. and around the globe. Indian country is uniquely vulnerable, both to the disease itself and to the public health measures required to contain its spread. Tribal populations have higher rates of obesity, heart disease, diabetes and other health conditions that are known to increase the risk for more severe cases of COVID-19 and even death. Most tribes are located in rural areas and served by healthcare systems that are ill equipped to handle massive case surges and more complex treatment requirements. The combination of such risk factors has been shown to intensify the crisis for some tribes, most notably the Navajo Nation. The odds are strong that similar problems will develop across more of Indian country as the disease progresses.

In the face of the public health crisis, tribal leaders, like leaders at all levels, have focused their efforts primarily on mitigation of the spread of the virus. Every Indian casino in the country has closed for extended periods. Along with casino closings, closures of other tourist attractions and cancellation or postponement of events have decimated the tribal tourism industry, one of the key economic drivers for tribal economies and sources of funding for tribal governments. Other key funding sources have also been hit, including mining and extraction industries and agriculture. While government funding has remained in place and is being supplemented by specific funding from the CARES act, the magnitude of the deficits being created at federal and state levels causes real concern for future funding levels.

In anticipation of the point in time when the health crisis will have passed but with little certainty of when that will occur, tribes are already formulating plans and taking steps to mitigate and recover from the economic devastation caused by the pandemic and steps to fight it. The first Indian casino reopened on May 1st, with others gradually following suit or preparing to do so in the near future. Tribal leaders are leveraging sources of public and private funding to provide for the needs of their people hit by loss of employment and income, as well as by medical conditions directly or indirectly related to the crisis. As in private industry, tribal industries are revamping their operations and attempting to control their costs to allow for the fastest and most complete recovery possible as public health directives permit.

One of the greatest challenges for tribal leaders in dealing with the current crisis and planning for future physical and economic recovery is the lack of clear, consistent and timely information and analysis. There is no statistic, not cases, deaths, tests, death rates, recovery rates, demographic profiles, GDP declines, unemployment rates, or any projections of future levels thereof, that provides the level of clarity and consistency needed. The numbers change daily and are often contradictory, alternately lending support to or undermining otherwise credible, plausible and well-meaning projections and recommendations.

This is not meant as a criticism of any particular reporting mechanism, measurement or forecast. While legitimate weaknesses and outright errors exist, the primary problem is in the nature of the crisis itself and of our length of experience with it. It is simply too soon and the conditions remain too vulnerable to the caprices of the virus and to the decisions by everyone from leaders at the highest level to individual tribal members. It is literally not possible at this point to have a clear and consistent picture of either the health or the economic impacts of the pandemic and the mitigation efforts to contain it.

Unfortunately, that does not change the need for leaders to make decisions right now and to plan for the future, however unclear. It also does not change the need for experts in the relevant fields to apply their skills, experience and best judgement to advise those leaders and the general populace to the best of their abilities. This problem is not new and is not without methods for approaching solutions. Forecasting and decision making with imperfect information, even in volatile periods, has been a subject of intense study for a long time and great advances have been made at the theoretical and practical levels that make possible useful frameworks for analysis, prediction, planning and direct action. Despite the uncertainty, there can be confidence that experienced professionals and capable leaders using appropriate methods can reach conclusions and take effective steps that will ultimately come closer to the conclusions and steps that would have arisen from perfect and consistent data. In other words, conclusions and steps that will leave their economies and people in the best possible position when the crisis recedes.

KlasRobinson Q.E.D.* specializes in analyzing the financial feasibility and economic impact of Indian gaming and economic development on tribal lands. Over more than thirty years, the principals of KlasRobinson Q.E.D. have worked with more than 250 tribes throughout the United States and Canada. This white paper has been created in an effort to apply that experience and perspective to the current crisis in all of its maddening complexity and volatility to equip tribal leaders and anyone who works to improve the economic health and well-being of Native America with a framework for short-term decision making and long-term planning. The analysis is organized into two main sections as suggested by its title. The first section is a prognosis for tribal economies that discusses the current conditions and forecasts the most likely outcomes going forward. The second section is a set of prescriptions for tribal leaders and the managers of their primary economic developments to assist in the economic recovery process. A final adjunct lists possible positive and negative variables that should be monitored to identify the potential for outcomes that vary from the forecasts made and adjust the strategies employed, along with some suggestions for the best means to track those key variables. Throughout the paper, we will attempt to provide sufficient discussion of the reasoning behind the forecasts and recommendations to allow the reader to make adjustments in the future as new information becomes available.

*** KlasRobinson Q.E.D. has considerable experience in analyzing tribal economic development. For a profile of the company, please see our website at www.klasrobinsonqed.com**

EXECUTIVE SUMMARY

GENERAL

This section describes, in brief, the findings and conclusions derived from our analysis of the effects of the COVID-19 pandemic and associated mitigation efforts on tribal economies. This overview includes our assumptions for the course of the pandemic and our forecasts for tribal economic damage and recovery. However, the estimates presented, along with the information in this section as a whole, are meant as a summary of, not a substitute for, the body of the report, which contains additional information and detail critical to a full understanding of the bases for the estimates made and the context within which they were formed.

PROGNOSIS

The severe disruptions from the global pandemic and from necessary efforts to mitigate its spread are already impacting the economies of Indian country and of the U.S. as a whole. Based upon assumptions about the length and severity of the pandemic and analyses of current and past economic conditions in crisis and recessionary circumstances, negative impacts across all sectors are expected for 2020 with varying but generally major degrees of severity. Negative impacts are forecast to continue in nearly all sectors in 2021 although recovery will begin in most cases. By the end of 2022 most sectors will be approaching full recovery or may have already reached it in some cases. However, certain sectors will not reach full recovery until 2023 or even later.

We are not public health or behavioral health experts. We are dependent upon the available information and analyses of such experts to formulate our assumptions for the course of the pandemic. However, making such assumptions cannot be avoided as they will have significant impacts on the forecasts of economic effects and appropriate responses for tribal leaders. With that understanding, we assume a continuation of significant caseloads and deaths directly attributable to COVID-19 through the Spring of 2021, with an approximate total number of infections of 5.6 million in the U.S. with approximately 224,000 deaths, plus or minus a margin of error. Following that time, we assume that COVID-19 will cease to be a major determining factor in the economy, although the effects of its ravages and of the responses needed to control it will extend far beyond that date, as will be discussed. However, the ongoing caseload and death rate of the virus beyond that time is no longer assumed to be an imminent driver of the economy.

The table on the following page present a listing of our forecasts for various sectors of tribal economies across the country. The experience of individual tribes will vary depending upon local circumstances and actions that their leaders and the leaders in their surrounding counties and states take. The discussion of the reasoning behind the forecasts in the body of this report should be consulted for any forecast of particular interest to any reader to ensure a thorough understanding of the significance and reliability of the figures presented in the table.

TRIBAL ECONOMIC PROGNOSIS SUMMARY

YEAR:	2020	2021	2022
U.S. GDP:			
YEAR-TO-YEAR CHANGE	-10.5%	7.7%	4.2%
PERCENT OF 2019 TOTAL	89.5%	96.5%	100.5%
U.S. UNEMPLOYMENT RATE	10.2%	8.2%	6.7%
U.S. INFLATION RATE	0.5%	2.5%	3.1%
TRIBAL ECONOMIC OUTPUT BY SECTOR:			
INDIAN GAMING:			
YEAR-TO-YEAR CHANGE	-34.2%	18.6%	22.1%
PERCENT OF 2019 TOTAL	65.8%	78.0%	95.3%
OTHER TRIBAL TOURISM & LEISURE:			
YEAR-TO-YEAR CHANGE	-38.5%	22.6%	27.6%
PERCENT OF 2019 TOTAL	61.5%	75.3%	96.1%
AGRICULTURE:			
YEAR-TO-YEAR CHANGE	-18.0%	17.6%	4.5%
PERCENT OF 2019 TOTAL	82.0%	96.5%	100.8%
MINING:			
YEAR-TO-YEAR CHANGE	-24.7%	16.4%	8.0%
PERCENT OF 2019 TOTAL	75.3%	87.6%	94.6%
CONSTRUCTION:			
YEAR-TO-YEAR CHANGE	-5.0%	-4.2%	1.0%
PERCENT OF 2019 TOTAL	95.0%	91.0%	91.9%
MANUFACTURING:			
YEAR-TO-YEAR CHANGE	-11.3%	11.0%	4.2%
PERCENT OF 2019 TOTAL	88.7%	98.4%	102.6%
WHOLESALE TRADE:			
YEAR-TO-YEAR CHANGE	-17.0%	9.9%	7.0%
PERCENT OF 2019 TOTAL	83.0%	91.2%	97.6%
RETAIL TRADE:			
YEAR-TO-YEAR CHANGE	-21.0%	8.8%	6.0%
PERCENT OF 2019 TOTAL	79.0%	86.0%	91.1%
TRANSPORTATION & WAREHOUSING:			
YEAR-TO-YEAR CHANGE	-2.0%	9.9%	2.0%
PERCENT OF 2019 TOTAL	98.0%	107.7%	109.8%
OTHER ECONMIC SECTORS:			
YEAR-TO-YEAR CHANGE	-7.1%	6.3%	2.8%
PERCENT OF 2019 TOTAL	92.9%	98.8%	101.6%

SOURCE: KlasRobinson Q.E.D.

PRESCRIPTIONS

There are already a plethora of checklists, model procedures and minimum operating standards available for businesses off all types, many of which were necessary to allow for initial reopening attempts or to maintain essential operations. These have been developed by various governments, industry and trade groups and individual operators and consultants. It is not our goal to duplicate those efforts. Our focus in this section is to provide practical recommendations based upon anticipated trends to guide and enhance the recovery process across Indian country and all of its economic sectors. The recommendations and the ideas underlying them are not presented as comprehensive, exhaustive or completely original. They are a compendium of our own analyses, best practices already being observed and extrapolations of likely refinements in initial steps designed to give a broad and high-level framework to assist tribal economic recovery.

The recommendations are summarized below by bullet point. Additional discussion of the reasoning behind and meaning of the recommendations is presented in the body of this report.

RECOVERY PHASES

Initial Phase (June to December 2020)

- Watching for promising new ideas and approaches taken by others and implementing them quickly
- Maintaining close communication with employees, customers and government, including both listening and informing, to minimize confusion and maximize the compliance with and benefits of any steps taken
- Monitoring actual versus expected results and not hesitating to change or revoke steps that do not produce desired results
- Publicizing the steps you take widely
- Planning in advance for retrenchment in the event of a viral surge
- Planning in advance for the next round of actions to take as conditions improve and restrictions are eased
- Careful evaluation of costs versus benefits to inform future revisions
- Avoidance of the language of failure or error and instead focusing on language of learning, refinement and evolution

Transitional Phase (October 2020 to September 2021)

- Continuing to watch for promising adjustments and approaches taken by others and applying them to your own environment
- Using operating results, customer and employee feedback and revised government directives to inform easing or adjusting of rules.
- Taking initial steps to make temporary structural changes permanent as needed

- Experimenting with internal design and materials to improve the comfort, efficiency and appearance of barriers and spacing requirements
- Planning in advance for long-term adjustments in space, product lines, pricing, staffing and business models to reflect the clearer picture of the evolving “new normal”
- Publicizing and celebrating successes, enhancements and easing of restrictions
- Personalizing the evolving long-term operating patterns to your particular business and customer base

Recovery Phase (September 2021 to Early 2023)

- Resumption of traditional rather than emergency strategic planning to maximize market position and profitability
- Continued communication with customers, employees and civic leaders.
- More significant capital expenditures to maximize the efficiency, customer appeal and profitability of operations
- A resumption of traditional government advocacy to refine, improve, add or remove post-pandemic regulations
- Exploration of new business lines, cross-fertilization, vertical and/or horizontal integration and other opportunities in the new economic environment given your own internal strengths and weaknesses
- Document all actions taken during crisis and recovery, including what worked and what did not to provide a guide for future crises

INTER-TRIBAL COOPERATION & COORDINATION

Association/Organization to Association/Organization

- Formal coordination through regular meetings of key staff in major national and regional organizations (e.g. NIGA, NCAI, NCAIED, American Indian Chamber of Commerce, NAFOA and many others, including their regional counterparts) to set agendas, monitor progress and share ideas and areas of emphasis
- Development amongst the organizations of standardized messaging, phrasing and key words applicable to area of common interest as well as to areas of individual emphasis (e.g. the word “sovereignty” which has become an extremely effective rallying cry across numerous issues)
- Continued and enhanced joint appearances before government agencies and elected officials and invitations to such to appear at joint gatherings

- Coordinated public relations efforts in the media and at state and local levels in addition to the federal government to highlight the areas of common concern and engrain the standardized phrasing and key words into the public lexicon
- Regular reports back to their own individual memberships regarding their coordination efforts to boost enthusiasm and support at the tribal leader and tribal member level
- Leverage associate member knowledge and resources to boost impact

Tribe to Tribe

- Development of consortiums between land-rich, labor-rich, resource-rich and financially successful tribes to develop new business ventures capitalizing on shifting trade and supply chain patterns, with development located to maximize needed employment or market/resource access with investment from tribes lacking such needs or opportunities but having cash available for investment
- Continued and expanded lending and investment tribe-to-tribe for renovation and expansion of existing facilities to meet new operating requirements as recovery takes hold
- Continued joint efforts to support needy Native Americans not living on their home reservations
- Continued, renewed or expanded support by individual tribes for the multi-tribal organizations and associations previously referenced
- Increased efforts to make inter-tribal purchases, whether tax-advantaged or not, and support Indian-owned businesses

SUPPLY CHAIN DIVERSIFICATION

- Internal review of all vendor sourcing across all tribal businesses to identify and develop additional reliable and high-quality sources
- Encouragement of, investment in and directed purchasing from existing and new AIAN-owned suppliers
- Reevaluation of customers and product/service lines to identify opportunities for additional direct or spinoff/leveraged markets, including increased tribe-to-tribe selling
- Lobbying and pursuit of government grants, loan programs and other incentive programs to support new, expanded or diversified production and distribution
- Active discussions at the association level and tribe-to-tribe of networks and consortiums to aid supply chain diversification
- Strategic planning and investment with a focus on longer return cycle development to allow new diversifying business ventures time to establish their markets

- Further exploration of tax advantages and other regulatory benefits of tribal development and tribe-to-tribe transactions, as well as tribe to non-tribal sources, to market and support new diversification efforts.

FINANCING & WORKOUTS

- Internal working groups as quickly as possible given crisis conditions to begin a pre-planning process looking at likely issues and areas of focus unique to each tribe and tribal business
- As time, capital and staffing permits, initiation of business level and tribal level strategic planning for recovery and future long-term operating models
- On-going communication with existing and past lenders to establish dialogue about needs, limitations, expectations and opportunities
- Project, loan or venture specific evaluation of pre-pandemic, pandemic and likely post-pandemic operating results given available information and current plans, including range and alternative estimates
- Active discussions at the association level and tribe-to-tribe of alternative capital sources, workout strategies and best practices
- Continued lobbying of government support for reparative, restorative and generative initiatives

INSURANCE & LEGAL

- Immediate discussions with internal and external counsel, as well as relevant industry associations and government representatives to determine the extent and character of liability for Indian tribes and AIAN-owned businesses across all sectors
- Negotiations with insurance providers regarding policy coverage and disbursement procedures to identify areas of disagreement and begin the claims filing process
- Documentation of all necessary actions taken, operating or practical results, government guidance, communications and publicity efforts to create a paper trail in the event of litigation
- Review and enhancement of publication and communication of all relevant policies, regulations and declared liability limits to customers, employees, vendors and tribal members

SANITATION, PPE AND OTHER HEALTH PROTECTIONS

- Active pursuit of diversified supply lines for all sanitation, PPE and other health protection supplies, including development of tribal production for internal use and external sale where feasible

- Study and monitoring of enhancements to improve the comfort of PPE for employees and customers without losing effectiveness
- Analysis of interior design standards to make distancing and barriers for customers and staff, both front-of-house and back-of-house, more attractive, less intrusive and more convenient/efficient
- Segmentation of customer and work groups into smaller clusters where possible to reduce potential spread, either through space designation, activity/process segregation or scheduling
- Identification of key customer groups for special attention that can be attracted by providing added protection versus the general population
- Active discussion at the association and tribe-to-tribe level of innovations, best practices and supply sources
- Frequent reevaluation of the placement and types of sanitizing equipment to ease and enhance customer and employee usage and decrease the cost and time needed to refill, replace and dispose of spent materials
- Customization of PPE with logos, names and other marketing material for sale or free distribution as appropriate to staff and customers
- Active training of staff on engagement with customers and each other to encourage cooperation in policies and procedures in a non-confrontational manner with clear chains of command for reporting or enlisting aid in situations of non-compliance
- Pursuit of opportunities to provide sanitation and PPE supplies with logos on a charitable basis to people or institutions in need
- Automation of dispensing, tracking, and resupplying of sanitation and PPE wherever possible

AUTOMATION

- Conversion where possible to touch-free processes, particularly in restrooms, entrances and other places where motion sensing is practical
- Conversion where practical to automated dispensing from supplies, to products, to currency/change, to PPE, to liquids, to raw materials and to any other potential machine dispensable item or service
- Training for staff on the proper use and maintenance of automated equipment and dispensers
- Education and promotion for customers on the use and benefits of automated equipment
- Inclusion of added automation in any redesign, renovation, expansion or new development to the extent allowed by space, capital and market position

INDIVIDUAL SECTOR PRESCRIPTIONS

Gaming

Space Use and Needs

- Planning and design efforts to create permanent distancing and barriers that are attractive to the customer, durable and easy for staff to work with and maintain.
- Evaluation of the cost/benefit of additional space for gaming and of reallocation of space from areas no longer utilized to the same degree.
- Evaluation of the most efficient and cost-effective manner to increase back-of-house space to meet employee and inventory needs
- Creative engagement with machine and table game vendors to develop new gaming stations that compensate for space requirements by reducing the need for customers to leave their gaming position
- Creative engagement with regulators to develop new MICS and testing to adapt to new gaming station models
- Reevaluation of the balance between various casino resort components to ensure that each component is properly scaled to meet the needs of the new operating environment, including greater design flexibility to quickly adapt space use in the future
- Consideration of shifts to electronic and/or stadium gaming for table games

High Value Customers

- Configuring of private gaming salons for exclusive use by high-value gamers or for rental by groups. Salons would have dedicated servers and premium food and beverage offerings. With advance reservations, specific games could be moved in and out until such time as multi-game stations are developed
- Reconfiguration of players' club benefits to focus even more intensively on higher-value gamers and reduce incentives to bottom level gamers
- Creation of "gaming concierge" staff for top tier customers to ensure that they have the games they want when they want them, guide them to the right locations personally when they arrive and cater to such other needs as they may have
- Adjustments to table minimums, and machine minimums to emphasize higher wagering levels per customer, even at the cost of some lower value patrons
- Creative engagement with regulators to develop/adjust regulations as needed to accomplish above goals.

Food and Beverage Service

- Design and operational planning for increased food and beverage service on the gaming floor, including necessary regulatory changes, ordering equipment, space to set food and drinks and shifts in staffing
- Reconfiguration of buffets and other underutilized restaurants and bars to food court or food hall concepts or other space needs
- Shifting of menu mixes to ease the transition to on-floor consumption but maintain quality and freshness
- Increases in outdoor dining and drinking areas where space and climate permit, including increased climate buffering efforts such as awnings, heaters, coolers/misters and windscreens
- Adjustments to marketing efforts and players' club rewards away from discounted food and beverage
- Premium food and beverage service for high-value customers and private gaming areas.
- Enhanced room service for casinos with hotels and increased packaged food vending and microwavable or kitchenette-preparable food

Other Gaming Prescriptions

- Increases in the non-smoking space in casinos or transition to smoke-free to reduce the need for customers to remove their masks
- Increased active pursuit of on-line gaming options and non-wagering game apps associated with individual casinos for play both on and off property to ensure that Indian gaming maintains parity with opportunities available to commercial casinos and state-sponsored gaming
- Reevaluation of the cost/benefit of large-scale entertainment and sporting events on site to reflect new distancing requirements and new gaming capacities
- Proactive review of all gaming regulations, both internally and with state and federal agencies, to ensure that any unnecessary barriers to the evolution of the gaming experience in the post-pandemic environment are removed or mitigated
- Exploration of air handling and air filtering enhancements that can be marketed as increasing employee and customer health safety
- Review and alteration as needed of customer and employee access points to aid in capacity control and public health monitoring

Tourism, Lodging & Other Leisure Industries

- Exploring options to expand RV and other camping sites, cabins, casitas, glamping or any other lodging options that stand independently or semi-independently
- Evaluation of renovation options to include kitchenettes or less extensive enhancements of in-room food preparation and consumption
- Enhanced room service and increased packaged food vending and microwavable or kitchenette-preparable food
- A shift in focus for lodging development toward lower price-point/lower service-point options such as economy extended stay
- Increases in outdoor dining and drinking areas where space and climate permit, including increased climate buffering efforts such as awnings, heaters, coolers/misters and windscreens
- Exploration of mixed/vertically integrated foodservice and retail models to provide more flexibility in the revenue stream
- Evaluation of the potential for increased outdoor or convertible indoor/outdoor activities and attractions
- Revision of staffing models through increased automation
- Where capacity cannot be maintained but demand is present, a shift upward in pricing to maximize revenue per patron, combined with increased amenities and upselling options
- Increased emphasis on reserved group bookings to allow for better staffing control and customer separation

Agriculture/Forestry/Fishing/Hunting

- Diversification of production through rotation or planting/grazing of a wider variety of products, particularly specialty products with Native connections of other high perceived-value elements
- Diversification of sales outlets, including multiple processors, direct retail and online sales
- Development of processing, packaging and distribution capabilities to produce value-added and vertically integrated agricultural ventures
- Microlending, guaranteed purchasing and other small-scale support for the efforts of individual members to diversify or add value to their own production
- Negotiation of tribal agricultural consortiums and tribe-to-tribe purchasing agreements to help seed new development initiatives
- Increased mandates to purchase from within tribes or tribe-to-tribe for foodservice supply and tribal grocery retail
- Exploration of recyclable paper and carboard packaging opportunities for tribal timber production where suitable

- Expansion of hunting and fishing activities for both tourists and tribal members to the extent supportable by the eco-system. This can be coupled with the increased RV camping and glamping initiatives already described

Mining & Extraction

There is little to be done to mitigate the effects beyond what is traditionally done in the sector: layoffs, temporary shuttering of facilities, production cuts and patience. One aspect worthy of more intensive focus is the same concept of tribal consortiums and tribe-to-tribe purchasing mentioned previously. The concepts are already in place for oil and gas, but only in their infancy. Expanded efforts to develop tribal networks for oil and gas and for other mined and extracted products should be among the major foci of the cooperative meetings between various tribal associations and tribes themselves advocated in this report. Beyond such efforts, we have no significant additional prescriptions to offer, other than the same resigned patience always exhibited in the sector during difficult times. Our forecast shows that by 2023, the sector should be well on its way to restoration of profitable economic activity.

Construction

- Active lobbying and pursuit of grants and low-interest loan programs for infrastructure and other construction projects from non-tribal sources by tribal associations and individual tribes alone or in consortiums
- Identification of any repair or renovation projects for existing tribal businesses and infrastructure to maintain minimal operating levels for construction teams
- Active pursuit of larger-scale renovation and expansion projects for Indian casinos as previously discussed
- Increased tribe-to-tribe and AIAN-owned construction sourcing for any projects available
- Documentation of potential construction labor and other economic benefits from new manufacturing or other projects to support loan and grant applications.

Manufacturing

- Strategic planning and analysis of tribal legal, land, labor and capital advantages to inform and justify new manufacturing initiatives and lobbying efforts at the association, inter-tribal and individual tribal levels
- Coordination of lobbying and public messaging between tribal associations with a focus on tribal manufacturing development

- Active lobbying and pursuit of grants and low-interest loan programs for the diversification of supply and repatriation of manufacturing capacity through multi-tribe and tribal/non-tribal consortiums that marry land and labor with capital and expertise
- Further strengthening of inter-tribal purchasing to support increased manufacturing production
- Exploration of vertical integration and value-added manufacturing opportunities by agricultural tribes, either alone or in partnership
- Active diversification of supply and sales outlets by existing tribal manufacturing ventures to protect against future disruptions with a particular focus on other tribal sources and outlets
- Increased automation of tribal manufacturing, particularly of new ventures, to protect output capacity in case of new public health or other emergencies
- Research into product improvement for PPE and other new or existing supply needs for Indian gaming to increase the proportion supplied by tribal vendors

Wholesale Trade

- Active diversification of supply chain and sales outlets to mitigate current and future risk of disruptions to key vendors or buyers
- Exploration of horizontal integration and product diversification to cater to increased demand for multiple vendors and multiple products lines as the recovery takes hold
- Increased and sustained communication with tribal leadership and other tribal entities to explore supply or sales opportunities and ensure awareness of product lines available
- Participation in planning and lobbying initiatives with tribal manufacturers to expand products manufactured and sold from tribal lands
- Exploration of automation opportunities to protect output capacity in the event of public health disruptions
- Further development of online ordering and shipping capabilities to expand the pool of sales outlets
- Monitoring of internal costs in relation to market pricing to maximize margins across product lines

Retail Trade

- Aggressive efforts to increase online presence and ordering and shipping/delivery capabilities
- Diversification of retail mix where demand and space allow to include sufficient essential products to allow operations to remain open in future shut downs

- Diversification of suppliers and increased inventory space to protect against product shortages
- Analysis of product pricing taking into consideration market trends, the characteristics of your demand base and the increased operating costs of the post-pandemic environment
- Increased automation in cashiering, customer service and other areas where possible to help control labor costs with lower volumes
- Reevaluation of space needs and associated costs for front-of-house versus back-of-house in light of new spacing requirements and inventory needs

Transportation & Warehousing

The primary impact of this sector will be the potential for increased freight and warehousing demand for tribal operators involved in those businesses. Between increases in online shopping, diversification of the supply chain and increased inventory space needs, demand for freight transport and warehousing is forecast to grow. As with manufacturing, some tribes are strategically located and can offer ample land and potentially lower taxes to warehouse and freight operators or develop them in their own right. To the extent that the same tribes do not have capital to develop or expand such ventures, working with other tribes to obtain financing or joint venture could solve the problem. Any tribe already active in warehousing and freight transport or actively pursuing increased manufacturing opportunities as described earlier should also be looking to expand their network of shippers and delivery destinations over the next two years to boost their presence in the sector for the long haul.

Other Industry Sectors

The needs and opportunities of the various other industry sectors not profiled independently in this analysis are too great for a comprehensive discussion or listing of recommendations for recovery and renewed growth. However, a few prescriptions that we consider useful are presented below:

- Discussions with utility companies to explore additional, environmentally friendly generation and transmission on and through tribal lands to boost local capabilities and generate new construction demand
- Active pursuit of enhanced internet and cellular connectivity for tribal government, residents and businesses
- Direct negotiations with lenders and financial institutions to adjust payment terms and increase lines of credit to support ongoing operations during the crisis and new growth and recovery efforts afterwards
- Exploration of funds availability for single and multi-family housing development for tribal members to support construction businesses and improve tribal living conditions.

- Exploration of funds availability for educational repair and renovation to support construction businesses and improve tribal living conditions.
- Analysis of in-home impediments to telehealth and other remote health initiatives and rectification of the impediments, including lobbying for and pursuing grants and loans to improve health care effectiveness for remote and elderly tribal members
- Evaluation of other cost savings and possible wage cuts to preserve tribal government jobs rather than resorting to layoffs during the crisis
- Pursuit of multiple tribal member focus groups during and after the crisis to explore ideas for dealing with the downturn and increasing opportunities during and after recovery

MONITORING FUTURE HEALTH

As we have noted, we are still early in the course of the pandemic and even earlier in the course of the economic crisis spawned by the disease itself and by efforts to contain it. Every statistical measure available on the disease, as well as on the economy, has flaws in its timeliness, accuracy and breadth of applicability. History is informative but not necessarily indicative. Therefore, it is useful to consider what factors and indicators should be monitored to determine if the course of the disease and the economic crisis are conforming to the forecasts in this report or are varying to a significant degree in your particular area. Indicators to monitor include:

COVID-19 AND CIVIC RESPONSE

- National daily and cumulative infection totals and deaths
- State/county daily and cumulative infection totals and deaths
- Daily infection totals and deaths in areas that reduce restrictions earlier beginning three to four weeks after the change and for eight weeks thereafter (too soon to tell)
- Monitoring of daily infection totals and deaths in China and in Western Europe for the remainder of this year (so far so good)
- Monitoring of public statements, reports, orders and guidance issued by your state and local authorities, of the majority public reaction to them and of the majority public reaction to similar guidance or orders by other governmental leaders in counties and states where leadership is affiliated with the same party as that in your area
- Monitoring of significant outbreak clusters at major businesses in your local area or at comparable businesses in other areas (e.g. meatpacking plants, nursing homes, etc.)
- Careful monitoring as much as possible of your own employees and customers.

GENERAL ECONOMIC CONDITIONS

- Whether or not an additional stimulus package is passed by Congress and signed by the President prior to the end of September and the magnitude and characteristics of the package
- The outcome of the national and of state elections in terms of divided government, removal or reelection of incumbents and whatever "mandate" is widely considered to have been given to those elected
- Momentum during the lame-duck period for the current elected officials to lock in or out changes by their replacements if the new government will have significant changes in power sharing
- Customer traffic and spending trends four to eight weeks after the resumption of limited or full-scale business
- The status of international trade agreements and temporary international pandemic-related restrictions
- Discipline amongst oil producing nations in controlling output to support costs
- The degree to which the financial community responds to increased risk and decreased debt repayment issues by tightening qualifications for lending
- The speed and proportion of rehiring by employers as business restrictions are eased
- The degree to which lawsuits over infections, employee safety and insurance distribution spread and become publicized or are preempted
- Back-to-school, Black Friday and Cyber Monday sales figures
- The speed with which hazard-pay increases for essential workers are rolled back and the amount of employee, public and governmental resistance to the rollbacks
- Unemployment rates, major employer closures and local government budget cuts in your immediate area
- Vacation travel and lodging industry performance nationally and in your area from July through October

TRIBAL ECONOMIES

- Indian-specific elements of any new stimulus legislation
- Funding levels for all major components of the federal budget affecting Indian country in the next three years
- Implications of national and statewide election results for hot button political issues related to tribes and general economic policy
- Success in completing the 2020 census accurately, particularly tribal member participation
- Formal actions at the federal level to encourage domestic production, repatriate manufacturing and diversify supply chains

- Auto travel trends and local area lodging industry performance
- Local personal and business bankruptcy rates
- Local employment trends, including large employer closures or rehiring
- Plans for resumption of local and regional festivals and sporting events
- Commodity prices and volumes in agriculture and mining sectors, as well as any government support initiatives
- Legislation affecting tribal interests during lame-duck sessions
- Unemployment rates, major employer closures and local government budget cuts in your immediate area
- Vacation travel and lodging industry performance nationally and in your area from July through October
- Resumption of gaming activity and response to enhanced marketing initiatives by high value gamers
- Average win per visit in casinos
- Outbreaks in major employers and in senior living facilities in the local area
- Public comments and draft legislative initiatives at the state level to boost state tax revenue that could adversely affect tribal interests
- Any initiatives at the national or state level pertaining to online gaming

Tribes located in areas with hot spots, higher unemployment rates, dependency on oil and non-grain farming or ethanol, reliance on international travel or air travel, higher personal and/or business bankruptcy rates or slower resumption of major festivals and sporting events are likely to see longer and slower recovery periods than the overall averages forecast in this report. The converse is also true. However, it will be important to distinguish between the noise of short-term fluctuations and the presence of actual, substantial and sustained variation from predicted results.

PROGNOSIS

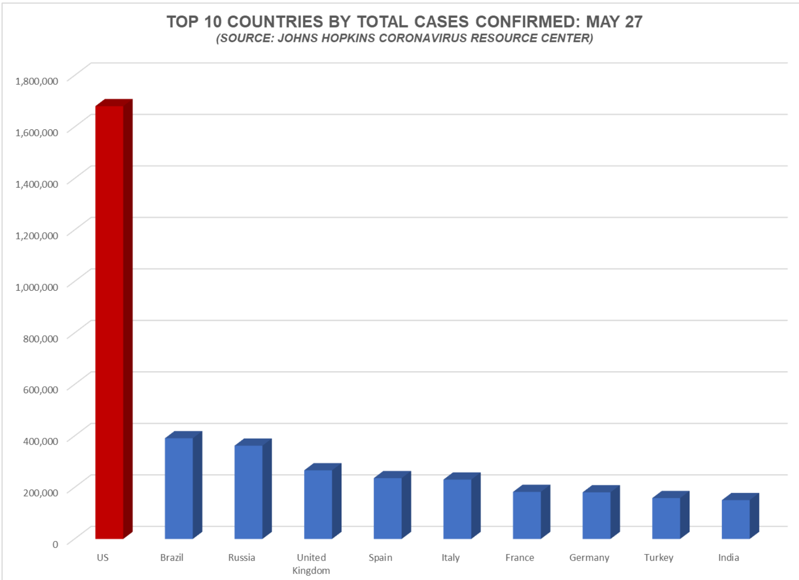
GENERAL

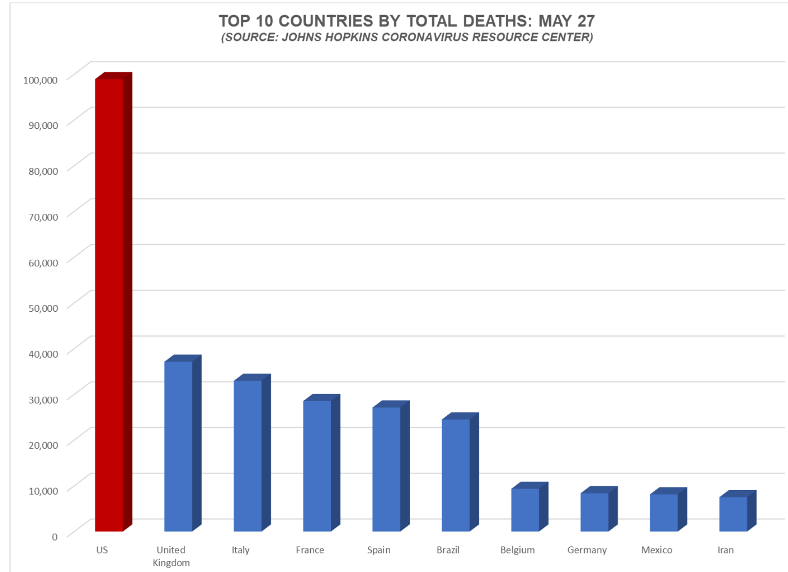
In order to develop an accurate prognosis for the economic consequences of COVID-19 and of the efforts to mitigate its spread, it is first necessary to understand the most likely prognosis for the two exogenous variables that are driving the current crisis, COVID-19 itself and the civic response to its spread. Only with a discussion of these two factors can we proceed to general economic conditions and likely future business patterns in the nation as a whole and in individual sectors as they pertain to tribal economies.

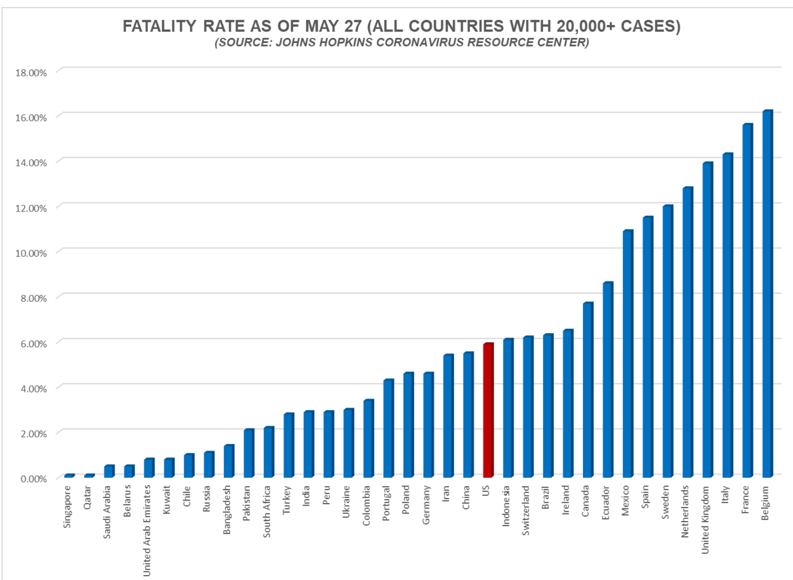
COVID-19 AND CIVIC RESPONSE

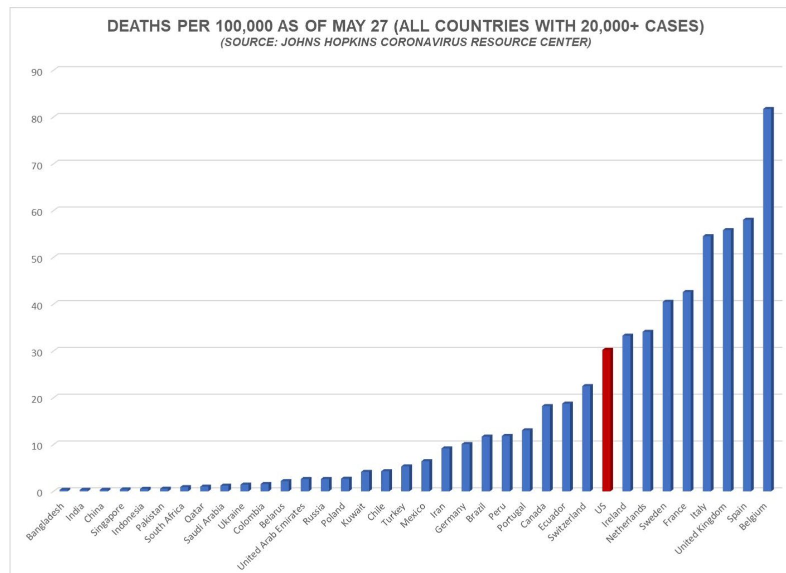
As of May 27, 2020, the United States accounted for nearly 30 percent of all COVID-19 cases worldwide, more than four times the next closest country, and over 28 percent of all deaths worldwide, more than two and one-half times as many as the next closest country, according to data from the Johns Hopkins Coronavirus Resource Center. The U.S. ranks 119th out of 154 countries listed in terms of the "death rate," recorded deaths to recorded cases, meaning only 35 countries have a higher death rate. The U.S. ranks 139th out of 154 countries in deaths per capita, meaning only 15 countries have had more deaths per capita. Many of the countries included in the Johns Hopkins figures have had very few cases. While no country can compare to the number of U.S. cases, it is reasonable to narrow the comparative analysis to countries with significant caseloads. There are 36 countries that had experienced at least 20,000 cases as of May 27th. Of those 36 countries, the U.S. ranks 22nd in terms of its death rate and 28th in terms of deaths per capita. These figures are presented in graphs on the following page

The trends in terms of cases and deaths in the U.S. have shown a very gradual decline in terms of rolling multi-day averages, even as individual days spike. Visually, the graphic pattern resembles a hand saw, with a gradual but serrated downslope. This pattern has developed during a period of maximum mitigating efforts, including massive business closures and significant restrictions on personal activities and interactions. The vast majority of states have been under some form of limited shelter-in-place order. Even those very few that did not issue such decrees, have still enforced business closures and made other significant recommendations that limit public gatherings. Every casino in the United States has been shuttered for some period of time. All major sports, concerts, events and other public gatherings have been cancelled or postponed. Virtually the entire food service industry has been either completely closed or restricted to takeout and delivery. Air travel and hotel occupancies have plummeted to 10 percent or less of normal volumes. Retail has also been restricted, as have all sectors of the economy to some degree. While certain areas have been maintained as essential, there is no question that personal travel and interaction outside the home has dropped to the lowest levels ever seen on a nationwide basis.


TOP 10 COUNTRIES BY TOTAL CASES CONFIRMED: MAY 27
(SOURCE: JOHNS HOPKINS CORONAVIRUS RESOURCE CENTER)
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
US
Brazil
Russia
United Kingdom
Spain
Italy
France
Germany
Turkey
India


TOP 10 COUNTRIES BY TOTAL DEATHS: MAY 27
(SOURCE: JOHNS HOPKINS CORONAVIRUS RESOURCE CENTER)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
US
United Kingdom
Italy
France
Spain
Brazil
Belgium
Germany
Mexico
Iran


FATALITY RATE AS OF MAY 27 (ALL COUNTRIES WITH 20,000+ CASES)
(SOURCE: JOHNS HOPKINS CORONAVIRUS RESOURCE CENTER)
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
Singapore
Qatar
Saudi Arabia
Belarus
United Arab Emirates
Kuwait
Chile
Russia
Bangladesh
Pakistan
South Africa
Turkey
India
Peru
Ukraine
Colombia
Portugal
Poland
Germany
Iran
China
US
Indonesia
Switzerland
Brazil
Ireland
Canada
Ecuador
Mexico
Spain
Sweden
Netherlands
United Kingdom
Italy
France
Belgium


DEATHS PER 100,000 AS OF MAY 27 (ALL COUNTRIES WITH 20,000+ CASES)
(SOURCE: JOHNS HOPKINS CORONAVIRUS RESOURCE CENTER)
90
80
70
60
50
40
30
20
10
0
Bangladesh
India
China
Singapore
Indonesia
Pakistan
South Africa
Qatar
Saudi Arabia
Ukraine
Colombia
Belarus
United Arab Emirates
Russia
Poland
Kuwait
Chile
Turkey
Mexico
Iran
Germany
Brazil
Peru
Portugal
Canada
Ecuador
Switzerland
US
Ireland
Netherlands
Sweden
France
Italy
United Kingdom
Spain
Belgium

A variety of models have been reported in the media and used by government leaders to support actions they have taken in their response to the pandemic. The models have offered widely differing projections for the ultimate number of infections and deaths from COVID-19 and have shown considerable internal vacillation as they have been updated in multiple iterations. While this has led to confusion and frustration on the part of both government leaders and the general populace, even to the point of dismissing some projections out of hand, the changing predictions and disagreement on outcomes between the models is a natural outgrowth of the limitations of the models themselves and of the insufficiency of the data inputs.

There is no single or even group of statistics on COVID-19 to date that is completely accurate. Case counts are dependent upon testing and/or medical diagnoses. Neither can provide a true full count of total cases. There have not been and still are not enough tests to catch every case. Diagnoses in the absence of tests are necessarily speculative, leading to the potential for underreporting in some cases and overreporting in others. The same is true for deaths. Absent adequate tests or standardized diagnostic measures, an accurate death count is also not possible. Recent examples of testing on deaths from before the outbreaks had previously been acknowledged show that COVID-19 was present in some areas long before the first publicly reported cases. Finally, the tests themselves have shown varying degrees of reliability and all have at least some potential for false results. In the absence of sufficient data on cases and deaths, death rates are even less accurate. Finally, there is at least some evidence of deliberate falsification of reporting at national levels in some countries for political purposes.

Perhaps the single greatest problem with the available data is unavoidable: time, that is, the limited time since the pandemic began. Even something as virulent as COVID-19 takes time to spread, manifest and resolve. As it does and until it has, we will always be learning new things and findings surprises, both bad and good, that we could not possibly know until enough time had passed. Similarly, as mitigation efforts are being adjusted, we will not know the true impacts until more time has passed.

The coronavirus is a particularly dangerous balance between infectiousness and lethality. If it were less infectious, we would not be facing the problems at present. If it were less, or ironically more lethal, if would also be less troubling, either passing unnoticed or killing off the infected before it can spread widely. It has proven to be maddeningly unpredictable as it has spread across the world. Based upon its genetic makeup and early transmission characteristics, it has been classified as an airborne upper respiratory disease. Yet it has manifested symptoms, some odd, some serious, far beyond the respiratory systems of some infected individuals, including attacks on other organs, blood clots, inflammatory syndromes, anosmia, happy hypoxia and other manifestations that do not fit the common patterns for respiratory infections. It has shown a strong tendency to most seriously afflict the aged and those with underlying health conditions. It has also shown far less virulence amongst children. However, it has demonstrated a disturbing ability to kill young adults and even some children who were otherwise perfectly healthy before contracting the virus. It has even infected pets and zoo animals.

Perhaps the single most serious surprise associated with COVID-19 is the apparent ability of asymptomatic people to infect others without even knowing they have the disease themselves. This has greatly complicated attempts to track and preempt the spread and rendered many standard control protocols less effective if not moot. An even more serious surprise may yet be in store, although it is simply too soon to tell, the time factor again coming into play. All future control and recovery scenarios have been built upon the assumption of at least temporary immunity developing for those who have had COVID-19 and, presumably, for those who would someday receive a vaccine against it. If this proves not to be true, and there are at least a few small disturbing indications that it may not be, then long-term caseloads, death rates and economic effects would be sustained at much higher levels than currently hoped.

Notwithstanding all of the issues associated with the various COVID-19 statistics reported, simply ignoring the figures or dismissing them is not a viable or logical option. Few if any analyses of public policy decisions can be based on complete and perfectly reliable data. In a complex environment, decisions will always be based upon incomplete and potentially contradictory information. Fortunately, there are methods for dealing with uncertainty and bias in assessing the data available and making decisions based upon those assessments.

Where measurement methods remain largely consistent, however flawed, trends can still be tracked and evaluated since the counting process has not changed. Where measurement methods change, presumably to improve accuracy or usefulness, counts and trends going forward can be much more useful and, over time, comparisons to prior conditions can be made once adjustments for differences in methodology can be inferred from the new experiences. Inevitably, at least some improvements in treatment protocols will develop, even without new medications or vaccines, indeed it is already happening, that may help reduce the severity and/or infectiousness of the disease.

Even at present, however, the data with all of its flaws can be put to good use by experienced and capable analysts using effective modeling techniques. To do so, and more importantly to put modeling output to effective use in making public or personal policy decisions, it is important to understand the structure and purpose of the models themselves.

The basic modeling technique for public health analysis of pandemic spread and appropriate mitigation is known as an SIR model, where the initials stand for Susceptible, Infected, Recovered. In a basic model, recovered also includes dead and the “R” can sometimes be termed resolved, meaning that one way or the other that person neither has the disease anymore nor can they infect anyone with it. In more complicated versions, a “D” is added to differentiate for death versus recovery and various other aspects are either added as additional variables or adjusted as inputs to reflect differing assumptions or public health actions.

Although every input matters in a model, the most important and perhaps most commonly discussed in the media is the R_0 input, which is the assumption of the number of people that any individual will infect while they have the disease before they either die or recover. This should not be confused with the “R” in the model’s name, which is completely different. In broad conceptual terms, each time someone in the population who is still susceptible contracts the disease, they are assumed to pass it on to R_0 others of those who remain in the susceptible population. Eventually, if enough people have contracted the disease in the given population, there is nobody left who is susceptible, meaning the last people to get it can no longer pass it on. At this point the population has achieved the much-discussed herd immunity.

Prior to that point, development of a vaccine can move the population to the same result if it can confer sufficient immunity to enough vaccinated people. In the absence of a vaccine, mitigating efforts such as those that have been employed in the U.S. and around the world can reduce the R_0 and slow the rate of spread. Since both the R_0 and the recovery rates are time sensitive, mitigation can slow the infection rate to less than one, resulting in a decline in total cases over time even though neither herd immunity nor a vaccine have been achieved. However, the reduction is like the proverbial grasshopper hopping halfway to the door each time. It gets closer and closer but never fully makes it.

As is evident from the description, the model, like any model depends upon a number of key assumptions, not only for the inputs used, but also for the mathematical expression of the interaction between the inputs. Assumptions for the infectiousness of the disease, the length of latency (infected but asymptomatic), the length of actual symptoms, and the death rate are all required to run the model. For more detailed or comparative versions and iterations, assumptions must be made or varied for the percentage requiring hospitalization, the percentage requiring ICU or ventilators, the reduction in R_0 due to mitigation efforts (closures, social distancing, masks, etc.), the effectiveness of treatments in reducing mortality and infection length, the effectiveness of testing and contact tracing, and many other alternatives that may be considered to study various scenarios. The assumptions built into the model regarding the interactions between inputs are necessarily based, at least initially, on the behavior of other, presumably similar, outbreaks. The assumptions for the inputs must be initially based upon the same data, only being adjusted over time as more current and disease specific data becomes available. Eventually even the model’s internal interactions may be adjusted to reflect current and disease specific observations, but this takes longer. As adjustment are made when new data become available, the models will inevitably yield different results.

One key overarching assumption that is easily forgotten is that the spread of the disease is inevitable until herd immunity or a vaccine is reached. It is important to understand that this is an assumption, not a conclusion or prediction. It is literally built into the model. Its corresponding but inverse cousin is the assumption that once you have recovered from the disease, you can neither get it again nor spread it to others, at least for some period of time. Without that assumption, there is no herd immunity and vaccines may be of little use. Both of these assumptions are reasonable. However, that is not the same as guaranteed.

Throughout human history since long before vaccines were created and even since that time in some cases, disease outbreaks of varying scales have come to an end before herd immunity was reached in the broader population by segregating the hot zones strictly until the disease ran its course within that area. There is a possibility, still uncertain, that China may be experiencing that result through its extraordinarily severe restrictions in Wuhan and the surrounding area. Notwithstanding concerns about the reliability of the data released by Chinese authorities, if they had experienced infections and deaths at the per capita rates experienced by Europe and the U.S., it is hard to imagine them having successfully hidden that magnitude of impact. The results observed in China, even if adjusted for bias, point either to a termination of the current outbreak through extreme measures, or to a special case in the standard SIR models in which especially aggressive measures temporarily reduce R_0 to near zero giving the appearance of eradication, only to have a follow on spike and spread until herd immunity is reached like other areas. It is too early to tell which is true, although watching the rate of infections in China will continue to be highly instructive for the next couple of months.

If the assumption of eventual immunity, at least partial or time-limited, proves to be false, which is also true for some diseases even in the modern era, then public and personal health responses are forced to transition on an indefinite basis to improvements in treatment and protective measures. This does not mean never leaving the house again. It does, however, mean that protective measures will need to evolve to a level that the average person has reason to believe they can proceed with daily life at a risk level for COVID-19 that is commensurate with other accepted risk factors.

There is one other model that has been well publicized, the IHME model out of Seattle, that appears to use a different methodology. While the specifics of the methodology have not been publicized, it is described as a hybrid approach using a “mixed effects non-linear regression framework.” Essentially, it appears that the model is designed to attempt to fit actual statistical trajectories from countries that experienced the virus earlier to the initial experience in the U.S. and the changes in that experience over time. An advantage of such an approach is the reliance at its base on reported data that can be tracked rather than assumptions regarding inputs and relationships. However, the IHME model remains vulnerable to the accuracy and time lag problems of the underlying statistics from which it is derived. In particular, reliance on reported data with fewer assumptions about the underlying drivers of observed interactions can miss unique and potentially important characteristics of different areas that could lead to differing predictive results if properly considered.

Having more than one model and more than one modeling approach is useful to decision makers to help set boundaries and provide nuance to the specific outcomes that any one model predicts. The challenge, common to any decision making process in uncertainty, is to evaluate the strengths and weaknesses of the modeling approach, of the analysts using it and of the underlying data to assess both the course of action most likely to produce optimal results and the probability of unexpected outcomes and severity of their consequences.

Forecasting the likely civic responses to the pandemic is, if anything, more challenging than forecasting the behavior of the virus itself. To a certain and very real degree, everyone is a decision maker in regard to the civic response to the pandemic from world leaders to local leaders to you and the person next door. While government and other leaders set rules and make recommendations, each individual decides to what degree they will comply and conform or not. Those decisions can accumulate to reinforce or undermine the boundaries that have been set.

Fortunately, in terms of forecasting civic response, the behavior of large groups of individuals exhibits enough similarity to fluid dynamics, network dynamics, and various non-linear patterns that it can be modeled with fairly robust confidence using appropriate methods. Essentially, the behavior of each individual in a large group tends to consistently move the group as a whole in ways that can be forecast with some level of certainty. A simple example would be a flock of birds, where each bird is acting individually with no overarching communication amongst the group saying: “everyone turn left,” yet the flock does precisely that when the situation warrants. While our understanding of the processes and ability to model them at real world levels for human interaction is still evolving, we have reached the point where we can make surprisingly accurate predictions in a systematic manner. To a certain extent this is not surprising. We individually and corporately make such predictions everyday as we enact public policy, invest in stocks or businesses, choose careers or educational paths and make countless other decisions. The choices are made with varying degrees of thought and input, but, whether innate or considered, they are based upon precisely the same attempts to predict future outcomes that formal forecasting models attempt to replicate with more rigor and reliability.

The greatest complication in evaluating likely civic responses to the pandemic comes from the role of certain key individual actors in roles that can have outsized influence on the outcome. Presidents, governors, business executives, faith leaders and other opinion leaders can change the direction of the group as a whole if their power and/or influence is sufficient. They effectively become additional exogenous variables. While group behavior can be modeled, individual behavior is still subject to unpredictable and potentially significant swings. When the individual is not constrained by the group dynamic to the same degree and exercises outsized influence on the group as a whole, that individual can literally change history. To use the same example, if the hypothetical flock did in fact have an absolute leader, they could potentially order the flock to turn right or fly straight through rather than turn left as it naturally would have and the group would obey.

You can, of course, study a group called “leaders” comprised of the multiple individuals over time and/or space to gain some insight into potential patterns. By so doing, the likely choices that any given leader would make can be explored and the degree to which it will be accepted or fought can also be predicted. Examples for the current pandemic would include examining the past behavior of comparable leaders in place at the time of past pandemics, such as the ”Spanish Flu,” as well as the behavior of leaders in the current crisis that were forced by circumstance to make their decisions earlier in the process. Past behavior of the particular leader or set of leaders with outsized influence over the current pandemic response can also be used as a guide. Nevertheless, the inherent uncertainty of predicting individual behavior for a single person in a unique crisis cannot be avoided completely.

Within the conceptual framework and limitations described, both for the virus and for the civic response, we have developed expectations for the future course of the pandemic in the U.S. and the manner in which government and individual citizens will alter their behaviors to mitigate its effects. These are provided as assumptions, not estimates or forecasts. We are not public health or behavioral health experts. We are dependent upon the available information and analyses of such experts to formulate our assumptions. However, making such assumptions cannot be avoided as they will have significant impacts on the forecasts of economic effects and appropriate responses for tribal leaders. While such circumstances are not unique when making any long-range economic forecast, they are particularly challenging for current crisis due to the lack of precedent in recent times.

With that understanding, we assume a continuation of significant caseloads and deaths directly attributable to COVID-19 through the Spring of 2021, with fluctuations in intensity by region and nationally including at least one additional peak of comparable severity to the current pattern. We have assumed that the caseload to date reflects 25 to 35 percent of the caseload totals in the U.S. by the end of May 2021 and that the death toll to date reflects 40 to 50 percent of the total at that time. This would equate to an approximate total number of infections of 5.6 million in the U.S. with approximately 224,000 deaths, plus or minus a margin of error. Following that time, we assume that COVID-19 will cease to be a major determining factor in the economy, although the effects of its ravages and of the responses needed to control it will extend far beyond that date, as will be discussed. However, the ongoing caseload and death rate of the virus beyond that time is no longer assumed to be an imminent driver of the economy.

This assumption does not mean zero new cases or zero new deaths, nor does it specifically require development of a vaccine or of herd immunity although either or both would be the most positive outcome. The same assumption can be met by sufficient improvements in treatment protocols and disease outcomes and by structural adjustments in the physical plants and personal expectations of the general population.

The comparison of COVID-19 to annual flu outbreaks, although seriously flawed and misleading as it was originally applied, is useful in understanding one possible version of the assumed outcome. There is a degree of ongoing risk of illness and even of significant deaths that can be factored into daily economic life without disrupting the normal equilibrium if the nature of the risk is well understood. That happens every year with influenza and with other health risks. That type of outcome, while far less desirable than actual eradication or control through immunity, is an alternative that would still satisfy the assumption underpinning our economic forecasts.

Assuming that the pandemic has been stabilized by Spring of next year, civic response in the form of governmental and/or corporate restrictions, along with changes in personal work, shopping and recreational behavior are assumed to remain in place to varying degrees through the Summer of 2021. After that time, we assume that any remaining restrictions or changes will either be of a more permanent nature or will be in the process of easing to a new steady state rather than a crisis mode. The level and character of restrictions will vary significantly across both time and geography between now and then. Despite widely reported differences in the level of restrictions imposed so far, the degree of response has been more consistent than recognized. As mentioned earlier, even states and countries that did not invoke stay-at-home orders still enacted significant restrictions on a more targeted basis and made recommendations that, while lacking the force of law, accomplished a similar result. Despite protests and more flagrant flouting of restrictions and recommendations, the vast majority of people have not only substantially obeyed them, they have agreed with and supported them.

Between now and next summer, we anticipate periodic recalibration of restrictions and recommendations with an initial direction toward reductions in severity and limitations in their application by geography, demographic characteristics and disease exposure. Despite obvious differences in philosophy between different political groups and geographies, we anticipate a general coalescing of approaches and parameters across the country as more practical evidence becomes available to leaders regarding the effects of pursuing alternative strategies. While some variation will continue throughout the course of the crisis, we anticipate fairly consistent methods will evolve that are more targeted in scope to particular age groups, health conditions, individual counties and individual industries. The lack of information and risk of cross contamination that prevents such consistency at present should reduce over time with increases in understanding of transmission, improvements in treatment protocols, experience with various mitigation efforts to reduce interpersonal contact and other data points to guide decision making.

Despite our assumption of more carefully and narrowly calibrated restrictions over time, we assume that the restrictions that will remain in place until next summer will continue to have a measurable negative effect on economic activity and that the intensity of that effect will fluctuate with the intensity of the restrictions. The current fitful trend toward loosening restrictions will be interrupted during the anticipated secondary and potential tertiary peak of infection and death rates in the intervening months. Resumption of more significant restrictions to the level of stay-at-home orders on a narrower basis can be expected for periods of four to eight weeks at least once more and perhaps up to three times.

Even if, as is certainly possible and perhaps even likely, a future surge in infections and deaths equals or surpasses the current crisis, the resulting tightening of restrictions is likely to be more targeted using the information obtained from these earlier days. Nevertheless, the tightening of restrictions will have comparably severe short-term impacts on economic activity, as will an increase in the virus itself. It is important to note, that the current concerns over the meat supply stemmed not from government-imposed restrictions, but from outbreaks in the packing plants. Even as the federal government imposed legal remedies through the Defense Production Act, the limits of executive fiat were demonstrated in the time it has taken to reopen the closed plants and the limits on their production capacity now in place due to safety efforts to mitigate internal spread. As additional spikes occur in the future, the economy will be affected by the impact of the disease itself, as well as or in spite of any governmental or corporate restrictions or lack thereof.

In the face of continued economic constraints, additional stimulus efforts are likely to be attempted. However, they too are running into a reality of the pandemic. No amount of added credit, reduced capital costs or direct cash infusion can boost spending when there is simply no market available within which trade can occur. Furthermore, given the severity of the economic impacts, stimulus efforts can only achieve partial mitigation of downward trends, partially substituting government action for normal economic activity rather than actually boosting that activity to normal levels. As the virus eventually reduces in severity and restrictions can be loosened more widely and more consistently, the economic stimulus efforts can begin to have their more common effects. Until then, throughout the remainder of this year and the beginning of next, they can only soften the blow and to a limited degree.

To summarize, we assume that the health crisis will extend into Spring 2021, with economic restrictions in place until Summer 2021 and stimulus efforts continuing to be added, but to limited effect until those times. During the intervening period, we expect a gradual reduction in the immediate future followed by one or perhaps two more significant spikes and tightening of restrictions, but on a more targeted basis, until the final downward turn in severity after the first of the year that leads to the assumed final outcomes.

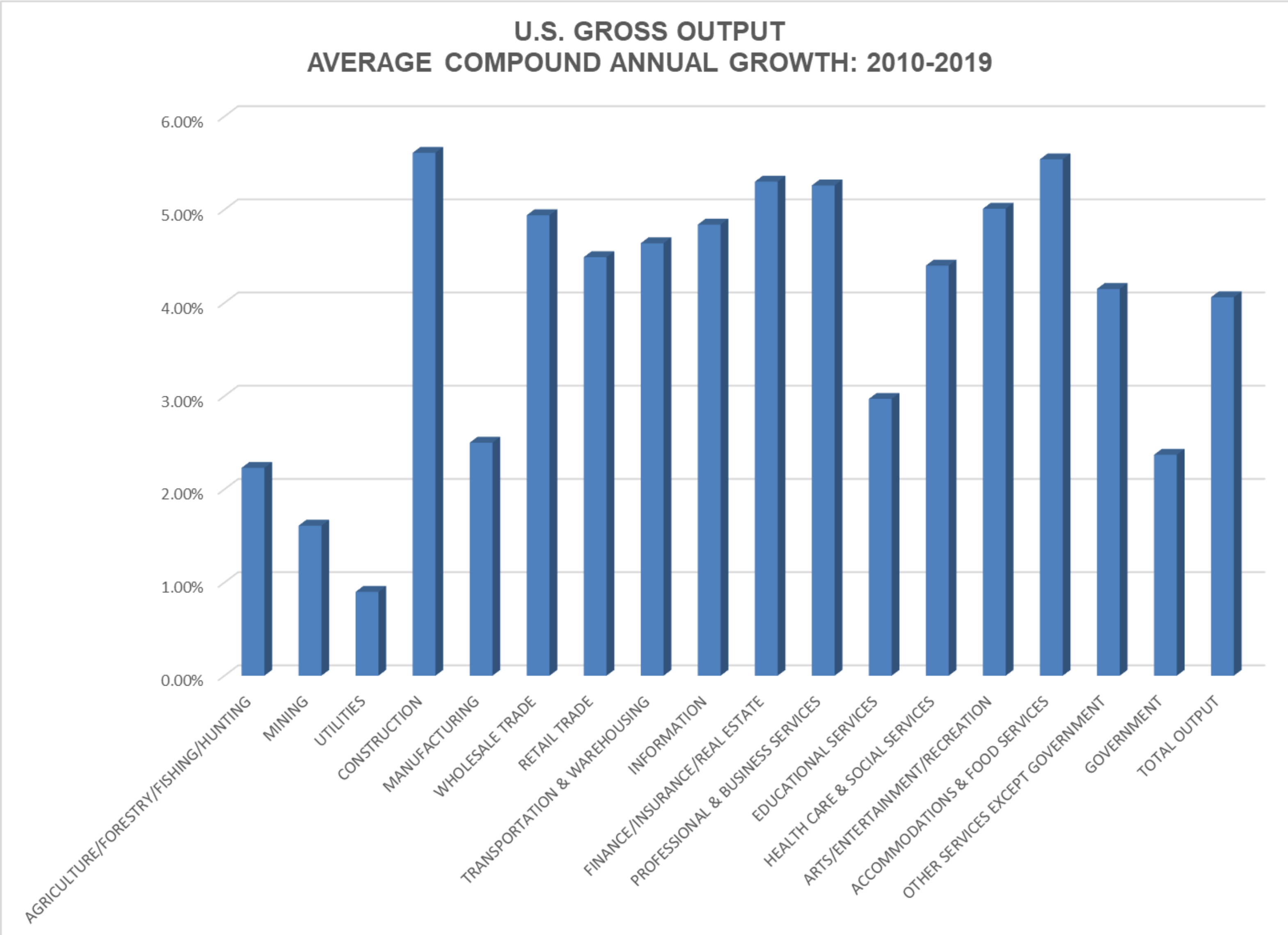
GENERAL ECONOMIC CONDITIONS

For the 10 years leading up to the current pandemic, the U.S. economy had enjoyed a period of steady growth following the Great Recession. While GDP growth was not as strong as in the 1990's or even the four years immediately before the last downturn, the GDP grew at an average compound annual rate of 2.3 percent. At the same time, the unemployment rate fell by well over six points and reached a level that had been considered below effective "full" employment given the limitations in the measurement method. Despite the economic growth, the inflation rate had been held in check, averaging 1.8 percent on a compound annual basis for the 10-year period.

According to the Bureau of Economic Analysis, U.S. Gross Output increased at an average compound annual rate of approximately 4.1 percent from 2010 through 2019, adding over $11 trillion to the economy. Every major industry sector in the U.S. economy increased over that period to some degree, as shown in the graph on the following page. The two fastest growing sectors were Construction and Accommodations/Food Services. However, they were followed closely by the growth rate for the single largest sector in the economy, Finance/Insurance/Real Estate. While output growth was only 3.3 percent in 2019, down from 6.1 percent in 2018 and below the nine-year average, the economy continued to demonstrate overall stability and growth potential.

Even the first two months of 2020 as awareness of COVID-19 was spreading but its effects in the U.S. had yet to be understood, the unemployment rate continued at the lowest level seen since the late 1960's. Then, in March, the wheels came off. Although the timing of the massive wave of shutdowns and stay-at-home orders came late enough to hold unemployment to only 4.4 percent for the month, the sudden and massive suspension of economic activity resulted in a drop in first quarter GDP of 4.8 percent. That drop was nearly twice the annual decline experienced in 2009 during the Great Recession and had not been surpassed since 1946 in the wind-down from war production after World War II. The number of first-time jobless claims soared to five times the previous one-week record, then doubled again the following week and has continued to number in the millions each week since.

In the wake of massive economic disruptions, governments have scrambled to provide economic stimuli and otherwise soften the sudden sharp blow. As already noted, however, there are limits to the effectiveness of any stimulus in the practical absence of markets within which to spend the money. In addition, no amount of government stimulus can full compensate for the loss in economic output caused by shutting down large sections of the economy. Indeed, the economic impacts have been felt across the board as even sectors not directly affected by restrictions nevertheless experience disruptions from the closures in the sectors that are.


U.S. GROSS OUTPUT
AVERAGE COMPOUND ANNUAL GROWTH: 2010-2019
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE/INSURANCE/REAL ESTATE
PROFESSIONAL & BUSINESS SERVICES
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
GOVERNMENT
TOTAL OUTPUT

The very real economic pain being felt has produced great pressure on government at all levels to loosen the restrictions taken to forestall virus spread. However, as also already noted, government restrictions are not the only factor generating business closures. The virus itself caused plant closures and major disruptions in the meat-processing supply line. Even without action by government, the very same industry sectors would almost certainly be experiencing comparable or even more severe disruptions as both customers and employees fell prey to the disease or altered their personal behavior to avoid it. Perhaps most importantly, the number of cases, hospitalizations and deaths from COVID-19 would be exponentially higher without restrictions in place. This is not merely an abstract conclusion from some academic model. It can be seen with the naked eye in the experience of locations that were unable or unwilling to enact restrictions before the virus had already taken hold.

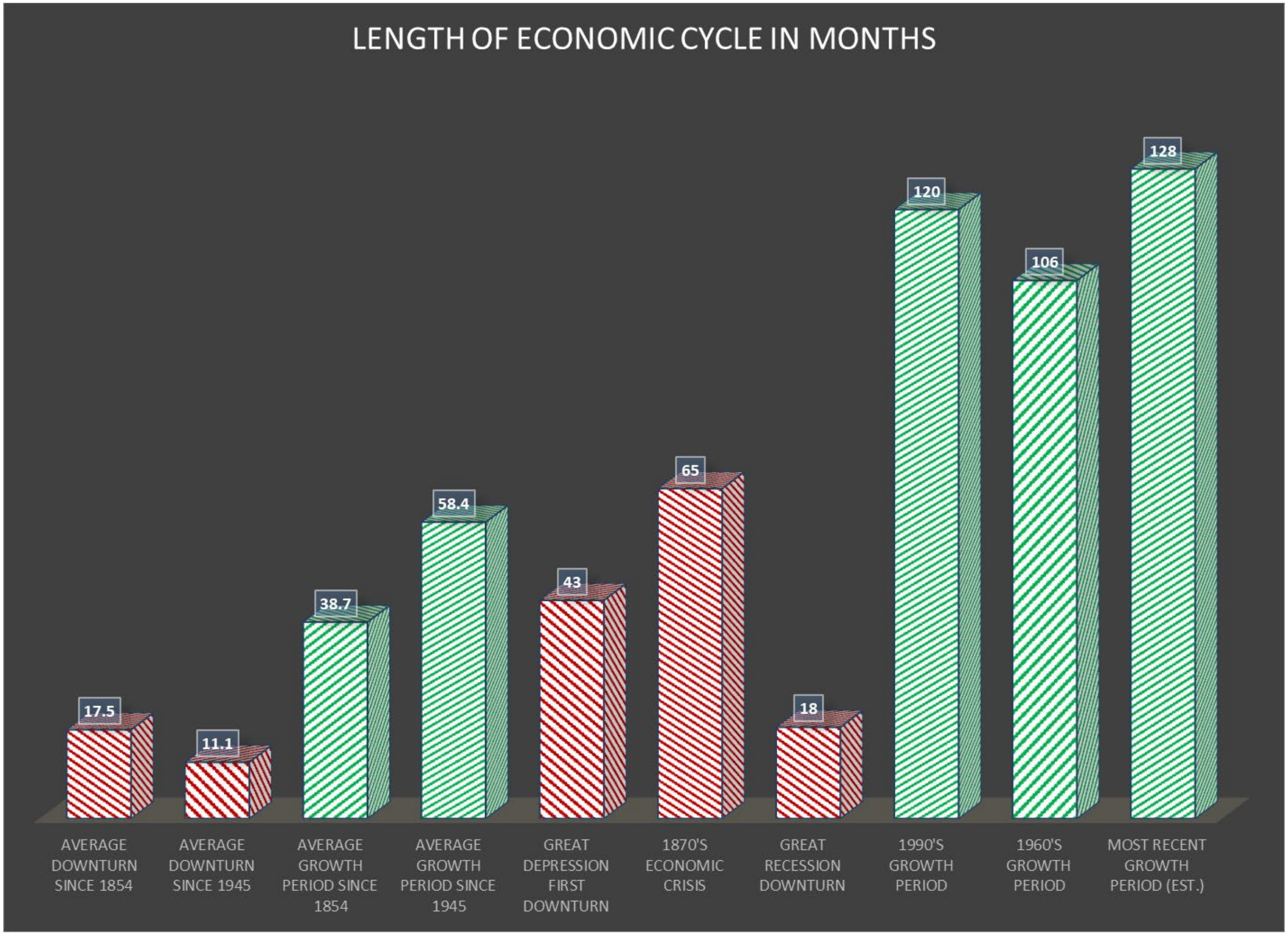
In forecasting the effects of the pandemic and of efforts to mitigate it going forward, it is important to differentiate between the short-term crisis period when the virus is still spreading actively, necessitating more significant control efforts, and the long-term recovery period when the acute phase of the crisis has passed and the economy is recovering from the disruptions while trying to adjust to a new equilibrium in the face of structural changes that are likely to be permanent. During the short-term, acute phase, government actions, the course of the pandemic and public reactions to both will be the dominant factors affecting economic performance. In the long-term recovery period, more typical economic patterns will eventually control and more typical government actions and consumer behavior patterns will once again resume. However, the resumption of more normal patterns will continue to be influenced by the after effects of the crisis measures and by the permanent changes in government policy, business operations and consumption behavior that will be the pandemic's legacy.

The short-term, acute phase is assumed to continue until the Spring and Summer of 2021, as previously discussed. During that time, economic indicators will be directly affected by the ebbs and flows of the virus itself and by changes in the mitigation measures, looser or stricter as, where and when needed. After that time, the economy will enter a long-term recovery phase driven primarily by normal economic principals and patterns. In considering the length and character of that phase, examination of past patterns is informative but not a guarantee. No past pattern, not the Spanish Flu, not the Great Depression nor the Great Recession, nor any other previous economic or public health fluctuation can provide a clear model for the current crisis. There has never been the precise combination of pandemic severity, governmental policy, financial interconnection and personal mobility present in this economic and health disaster. In that sense the coronavirus is novel in more ways than one. However, evaluation of past crises to determine lessons that can be learned from whatever limited areas of commonality can be found is a necessary and appropriate starting point.

According to the National Bureau of Economic Research, the accepted arbiter of economic cycles in the U.S., there have been a total of 33 economic cycles, periods from peak to trough to peak again or vice versa since 1854, the last occurring from 2007 through 2009 and commonly known as the Great Recession. Ignoring severity or variance between peak and trough, the longest decline was not during the Great Depression, but during what was until the 1930's considered the worst economic crisis in our nation's history, from October of 1873 to March of 1879, a period of over five years. At that time, governmental policy options were far more limited and private action from some of the historical captains of private finance and industry was all that saved the U.S. economy from possible collapse. The single longest upward cycle from trough to peak is far more recent, the period from March of 1991 to March of 2001, a ten-year growth cycle. By comparison, the era known as the great Depression actually consisted of a pair of cycles. The first, which led to and then grew from the stock market crash of 1929, consisted of a trough of 43 months until March of 1933, followed by an abbreviated recovery period until May of 1937 and a second trough extending to June of 1938. Although the final recovery and subsequent growth period was aided by the massive industrial activity spawned by World War II, it actually began before the war.

Since World War II and consistent with the development of more robust policy options and direct governmental interventions, the pattern of decline and recovery has tilted sharply from prior history with relatively shorter periods of downturn and relative longer periods of recovery and growth. Throughout the past 170 years, the overall average length of the downward cycle, peak to trough, has been 17.5 months, compared to an average upward cycle, from trough to peak, of 38.7 months, somewhat more than twice as long. However, since 1945, the average downturn has lasted only 11.1 months compared to an average upturn of 58.4 months, more than five times as long. Even the most recent Great Recession followed the general pattern. Although the downturn was the longest since before World War II at 18 months, the previous upward cycle had lasted over six years and the recovery and growth period since the Great Recession will certainly be measured at over 10 years once the final determination by the NBER is made. The graph on the following page shows the lengths in months of average cycles and of certain key individual cycles in U.S. economic history from NBER data.

The last time the U.S. faced a pandemic of such proportions, the Spanish Flu pandemic of 1918-1919, the disease outbreak corresponded with the conclusion of World War I, which carried economic consequences of its own from the actual military conflict and from the typical post-war disruptions caused by reducing war production and reassimilating soldiers into the private sector. As a result, separating the effects of the pandemic from the other economic effects has been problematic. Added to those difficulties is the limited amount of reliable data on the toll of the disease itself and on economic activity of the era. Record keeping was neither as accurate nor as robust at that time.


LENGTH OF ECONOMIC CYCLE IN MONTHS
17.5
11.1
38.7
58.4
43
65
18
120
106
128
AVERAGE DOWNTURN SINCE 1854
AVERAGE DOWNTURN SINCE 1945
AVERAGE GROWTH PERIOD SINCE 1854
AVERAGE GROWTH PERIOD SINCE 1945
GREAT DEPRESSION FIRST DOWNTURN
1870'S ECONOMIC CRISIS
GREAT RECESSION DOWNTURN
1990'S GROWTH PERIOD
1960'S GROWTH PERIOD
MOST RECENT GROWTH PERIOD (EST.)

While estimates of deaths worldwide vary considerably and lack a clear consensus, the toll was certainly in the tens of millions and comprised a much higher percentage of the world population at the time than even the most dire predictions for the current pandemic. The disease also had the odd characteristic of having the greatest severity amongst working age adults, unlike the current pandemic. There is more consensus over U.S. deaths, around 675,000 spread across two years and three viral peaks, two in 1918 and one in 1919. The middle peak in late 1918 was the worst of the three. A death toll of 675,000 represented roughly 0.6 percent of the total U.S. population. A comparable toll on a percentage basis from the current pandemic would equal over 2.0 million deaths, an unlikely figure at the upper end of some models assuming no mitigating measures are taken.

The U.S. economy experienced two downturns during the period, one during the Spanish Flu and one shortly after. The first downward cycle lasted seven months from August of 1918, while the war was still ongoing and as the Spanish Flu was entering its second and deadliest cycle. The second lasted for 18 months from January 1920 to July 1921. The growth period in between lasted 10 months from March of 1919 until January of 1920. According to a recently published paper by Robert Barro, Jose Ursua and Joanna Weng for the NBER (working paper 26866), the overall decline in GDP in the U.S. from 1918 to 1921 equaled 12 percent, along with a 16 percent decline in consumption. While their analysis suggests that an "average" country experiencing the Spanish Flu during that time may have experienced declines of 6.2 percent in GDP due to the pandemic, the impact on the U.S. is estimated to have been only a 1.5 percent drop in GDP and 2.1 percent drop in consumption, due to differences in the severity of the pandemic and to lag times between flu deaths and observed economic declines. The remainder of the overall observed decline would be attributed to World War I effects. It should be noted that they use a different mortality count for the U.S. from the Spanish Flu, although the difference would not account for the full gap between the U.S. and their "average" country. Their analysis was unable to determine with confidence whether the any negative economic effects from the pandemic were permanent or temporary.

It should be noted that the mitigation efforts against the Spanish Flu were even more varied and generally less substantial than government responses to the current crisis. In addition, governments were neither capable nor inclined to use the range of economic policy tools to stimulate the economy that exist today.

GDP is one of the factors used by the NBER in identifying cycles but it is not the only one, nor is it determinative. During three of the downward cycles identified by the NBER since World War II, real GDP levels on an annual basis did not decline. During one period, declines in real GDP are not associated with a designated trough by the NBER. Also, the cycles identified by the NBER are tracked from trough to peak and vice versa. However, the upward trend from trough to peak can be separated into two segments, a recovery period when the economy returns from the trough to approximate prior levels of economic activity, and a new growth phase when the economy moves past prior levels to a new peak.

Annual real GDP declined in the U.S. during nine periods since World War II before the current crisis, some of which lasted more than one year. The longest period was immediately following the war, with declines extending through three consecutive years. From the initial decline in 1945, GDP did not fully recover to its prior 1944 level despite a surge in 1948 before a second decline occurred in 1949. It was not until 1951 that annual GDP finally exceeded 1944 levels in real terms. Downturns in 1954 and 1958 were recovered more quickly with GDP exceeding prior levels the very next year. The decline in GDP associated with the oil and Israeli-Arab crisis of 1973-1974 required two full years to recover, with GDP not surpassing 1973 levels until 1976. Remaining drops in GDP were recovered in a single year until the last time in the Great Recession, when two years were needed for GDP to return to pre-recession levels. Going back slightly further, the secondary downturn during the Great Depression in the late 1930's required two years for recovery. Only the initial downturn in the Great Depression starting in 1929 required longer, seven full years to recover to the level of real GDP prior to the downturn.

Unemployment patterns tend to move inversely to GDP growth, rising when if falls and falling when it rises. This is understandable, as there is an obvious connection between production and employment needs. However, there are lags between the movements of the two economic measures and the pattern is not completely consistent. Unemployment rates typically require significantly longer to recover to previous levels after a downturn and may also show early increases before a drop in GDP is recorded. Furthermore, there has been, historically, a floor level of GDP growth necessary to yield a reduction in unemployment, although that pattern has changed since the Great Recession. Generally, if GDP growth was less than 3.0 percent in a given year (or negative), the unemployment rate in that year was equal to or higher than the previous year. Conversely, if the GDP growth was 3.0 percent or higher, the unemployment rate fell. From 1930 through 2007, a period of over 75 years, there were only three times that the unemployment rate declined in years where GDP growth was lower than 3.0 percent and none when it was negative. There were four years where GDP growth was greater than 3.0 percent but the unemployment rate still increased. Otherwise, the pattern held until the Great Recession. Since the Great Recession, a period of 10 consecutive years, real GDP growth has never exceeded 3.0 percent, yet the unemployment rate has fallen every single year, from the recessionary high of 9.9 percent in 2009 to 3.5 percent last year.

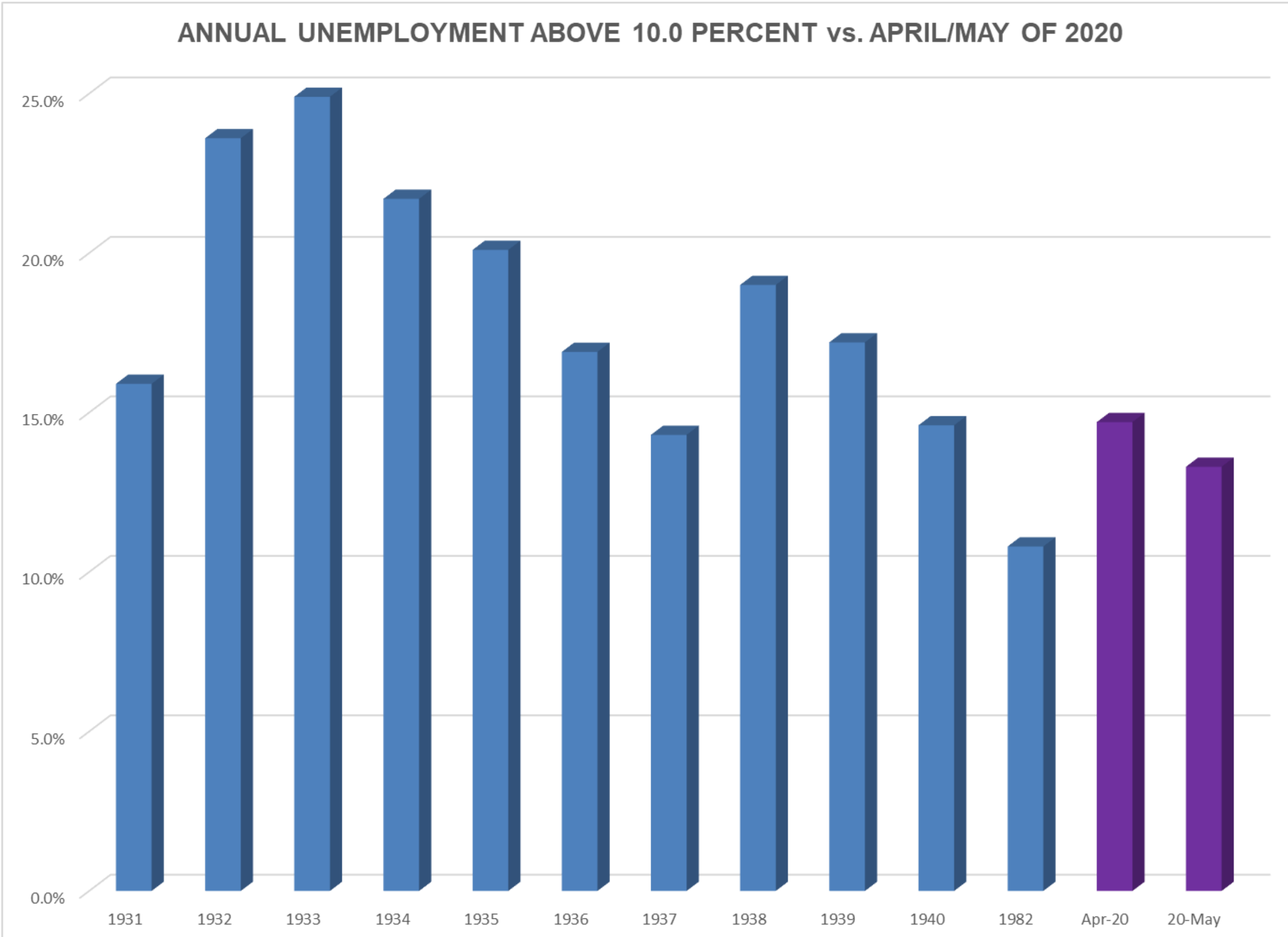
The precise reason for the remarkable change has yet to be fully explained by economic theory. While most of the lags and past pattern shifts could be explained by limitations in how the unemployment rate is measured, the anticipatory behavior of companies, technological and other productivity enhancements, monetary policy, changes in the relative importance of U.S. industries with greater and lesser employment needs to overall economic output and other factors that affect either GDP or employment more or less than the other, none of them can satisfactorily explain in any plausible combination the new pattern that has emerged.

The difficulty of the pattern change in evaluating the current crisis is the uncertainty as to which type of pattern is likely to prevail when the crisis passes, the old pattern, the more recent one, or something yet again different. In addition, the relative position of unemployment in the causal chain has shifted in the current crisis in a way never before experienced. Rising unemployment is usually a reaction to declining demand. As it rises, it feeds, in turn, the decline in demand exacerbating the problem. It is a middle link in the causal chain. While it can, to a degree, anticipate and precede an impending drop in the economy, that is related to the anticipatory behavior of businesses sensing a shift before it is statistically apparent. The same pattern works in reverse as recovery begins.

In this crisis, the drop in employment is at the front of the causal chain, concurrent with business closures or even the cause of the closures in some cases due to sick employees. Demand had not fallen before the sudden closures to any significant degree and showed no serious signs of doing so. This different position in the causal chain will also be true whenever recovery begins. Businesses will be allowed to reopen before, indeed without clear indication of, demand ratcheting upwards because declining demand was not the reason they closed in the first place. Thus, employment will rise in advance of other economic activities, at least to some degree.

Business closures, whether by order or by viral impact, have caused a jump in unemployment claims of over 36 million people in the space of a few weeks. The unemployment rate of April was 14.7 percent, a figure not approached since 1940. Even at the start of the Great Depression, it took two years for annual unemployment figures to rise to double digits. They did not fall to single digits again for ten years. The only other time that unemployment reached double digits on an annual basis since then was during the Regan-era recession in 1982, and only for one year. May of this year was better than April, but only marginally so at 13.3 percent. The graph on the following page shows the years and figures when unemployment reached double digits since 1929, along with the figures for April and May of this year. Of course, April and May are but two months, not a full annual average. However, there is no doubt that the unemployment rate will remain high for a considerable period of time or that the annual average for this year will be in the double digits.

Inflation rates or pricing patterns are by far the most erratic of major economic indicators for a variety of reasons. Inflation at a modest level has come to be regarded not only as acceptable, as was once true, but even good. This is a change from the lingering fear of inflation left from the period of stagflation and high price/interest rate levels in the 1970’s and early 1980’s. There is a general belief that inflation is tied to the “temperature” of the economy. An overheated economy, one that is growing too rapidly, is believed to be unsustainable and to lead to a spike in inflation. Conversely, a cooling or declining economy may cause prices to fall.


ANNUAL UNEMPLOYMENT ABOVE 10.0 PERCENT vs. APRIL/MAY OF 2020
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1982
Apr-20
20-May

Certainly, the basic economic understanding of imbalances in supply and demand causing changes in pricing where prices are allowed to float free, or changes in availability where they are not, is well established and reasonable. However, at the macro scale, inflation has as much to do with consumer and business expectations and confidence, not only in the direction of the economy but in the reliability of its de facto managers, government, the financial community, business leaders and labor leaders. As a result, inflation can move in vexingly unexpected ways, jumping or staying high during downturns (e.g.: stagflation again), of remain surprisingly low during boom periods.

This is due to the reality that inflation is ultimately more of a reflection of the perceived value of the currency measures (dollars, pounds, etc.) than of the perceived health of the economy. A dollar is a dollar, today, tomorrow and yesterday. However, what that dollar can buy, that is, what it is worth in useful goods and services, changes as people gain or lose confidence that when they receive that dollar in exchange they will be able to turn around and exchange it with someone else for something of comparable value to them with what they gave up to get it in the first place.

The fear of excessive inflation becoming extreme or “hyper,” is the real fear that the economy will lose confidence in its standard measure of exchange value, its currency. When that happens, economic activity must reach agreement on new measures of value in exchange, a process that inevitably leads to massive economic disruptions and disparities typically followed by equally serious social and political disruptions.

The converse effect is also serious, deflation. Deflation is not a sale on goods and services. At its heart it is a loss of confidence in the willingness of anyone to make an exchange at any value, a fear that demand has collapsed or will collapse to the point that you “cannot give it away.” An example was very briefly given recently by the collapse of oil futures to negative numbers. Producers were literally, if briefly, willing to pay customers to take oil off of their hands. Deflation is not problematic in its own right. It is of serious concern because it represents an environment where there is no confidence a market for goods and services can be maintained, at least in the near term. If that happens, businesses do not simply reduce output, they close completely. Restarting those businesses at some future date is a costly, time consuming and highly uncertain process. It may never happen, at least to the same degree.

Advances in the understanding and application of monetary policy have undoubtedly had a significant impact on the management of price fluctuations because they have significantly improved the capabilities and reaction time of the managers of the economy to address potential shifts in confidence. The current economic crisis, however, is as unique in regard to its impact on pricing as it is to employment and other factors.

The collapse in economic exchange occurred, not because of a drop in demand, but because of a drastic reduction in the availability of the markets in which exchanges can occur. With so much of the economy closed by executive order and/or direct pandemic effects, there is simply nowhere for goods to be sold for many businesses. This has led to widely publicized destruction of animals and food products amongst other effects. The question becomes to what degree business leaders will have confidence that demand will return once restrictions are lifted and to what degree consumers will have confidence that they can safely exchange their resources without fear of physical health or inability to replenish what they exchanged.

There was a theory, or perhaps a hope, early in the current crisis that the recovery from both the pandemic and the economic disruption would be rapid. The theory was that because the underlying fundamentals in the economy had been solid before the pandemic struck, they would rapidly return to prior levels once the mitigation efforts drastically restricting trade were lifted. Implicit within that theory was the assumption that the restrictions would be lifted quickly because the U.S. would keep or quickly get the virus under control. As it has become apparent that the pandemic is going to continue as a major health hazard for much longer, even those with the most optimistic views regarding the timing of disease control and speed of economic recovery have been forced to shift their timetable. Other voices, present even before but much louder now, have predicted much longer timeframes for disease control and for economic recovery afterwards.

We have already outlined our assumptions for the pattern for the pandemic itself in this country. In forecasting the length and pattern of the recovery and the severity of the impact in the interim, numerous factors must be considered. The longer markets are constrained due to the effects of the virus itself and of closures and other mitigation efforts to slow its spread, the more likely it is that the changes will become permanent rather than temporary. For starters, there are businesses that will simply not survive the crisis. This is already being seen in food service and retail and is spreading to many other sectors. Beyond the loss of businesses that lacked the access to capital necessary to survive the immediate crisis, the ripple effects of lost business and income and the permanent changes in operating models and consumer behavior will have impacts on the economy even after the pandemic has passed.

This is not, by the way, an argument in support of eliminating economic restrictions imposed by government. Even without such restrictions, the pandemic would cause many of the same closures or reductions, if not more so, as in the case of meat packing plants. If employees and customers are dying or simply too sick to work or shop, businesses will still close. If the effects stem from a pandemic that is more severe or lasts longer due to inaction, they will actually have more significant and longer lasting effects on future economic recovery. There is room for considerable argument and refinement in the exact character and application of governmental restrictions to mitigate the pandemic. However, there is no question that restrictions in some form for some length of time are still required. Our assumptions regarding those restrictions have already been discussed.

The ripple effects are already evident, but by no means fully affecting the economy to the extent they ultimately will. Loss of income to individuals and businesses has prevented them from being able to pay for rent and mortgages or other bills. Landlords, in turn, are facing the inability to pay their own mortgages or other bills. Although less evident to date but inevitable over time, lenders and investors will be faced with a loss of income from mortgages, mortgage-backed securities, REIT's and related sources threatening credit and investment. Indeed, lenders are already seen to be tightening credit requirements for home mortgages.

At the level of government, ripple effects are multiplicative. Added costs for safety nets and for emergency and public health services, amongst others, as well as cries for economic aid and stimulus are hitting at the same time that tax revenue is plummeting due to a lack of business volume and inability for taxpayers to meet their obligations. At the federal level, this can be met by massive increases in deficit spending. However, this is much less possible at state or community levels due to constitutional restrictions and limits of credit capacity. To be sure, such concerns have largely been set aside in the short-term due to the severity of the circumstances. They cannot, however, be ignored forever, leading either to eventual spending cuts, tax increases, added inflation, higher interest rates, loss of borrowing capacity or some combination of all of the above.

Supply chains have been severely disrupted, either by sudden collapse of demand (e.g.: oil or food service) or by massive surges in demand far outstripping production capacity as in the case of medical supplies. The medical supply situation is illustrative of the subtly and complexity of the problem. Much discussed issues with testing capacity in the U. S. have had as much due with lack of mundane and unnoticed components such as swabs or reagents as with problems in testing kits, diagnostic machines and expert labor. In the same way, the sudden discovery and rapid production of a vaccine, if/when it happens, will be hampered in its distribution to the public if the plastic, metal and rubber components of the syringes, the safety gear, the available labor and other necessary elements are not also ready to go.

The advantages and disadvantages of modern logistics have been on display during the crisis. Over the last 30 plus years, logistics have been transformed through superior communications, demand forecasting, transportation cost reductions and other elements to fundamentally change the way businesses obtain raw materials and product for sale. The results have been tremendous increases in efficiency as just-in-time ordering as become the rule, reducing the need and cost of storage space, and vendors have increasingly specialized to meet the particular requirements of specific industrial sectors, subsectors, and even particular geographies and individual businesses. This has also led to a global supply chain designed to move production to locations with low labor and other input costs.

The chain itself has fragmented into specialized components that handle raw material development and acquisition, initial fabrication or synthesis, transportation and warehousing, final production and packaging, billing, labor management, market identification and facilitation and other parts of the process. Each piece improves its efficiency by focusing solely on its area of expertise without the need to address ancillary issues farther up or down the supply chain.

Unfortunately, complexity and efficiency equal fragility. In a stable or predictably variable environment, the level of specialization that has developed allows for considerable improvements in productivity and lowers costs. It is, however, so carefully and specifically calibrated to its existing environment that when that environment is severely disrupted by an exogenous variable like a global pandemic, the same system cannot adjust or adapt as quickly as a more robust but less efficient version where overlapping efforts and capacities can be used to adjust to the new circumstances much more rapidly.

The agricultural industry is an excellent example. At the same time that product shortages are appearing in grocery stores, some farmers are destroying animals and crops that they cannot sell. They cannot be sold as produced by those farmers because they were specifically produced for the food service industry, which has been decimated, and the sizes, grading systems, packaging and transportation infrastructure to move them to groceries instead of restaurants does not exist. An egg produced for liquid egg product, used in restaurants, cannot simply be quickly graded and repackaged in a carton and sold to a grocery distributor with whom the farmer has no relationship. Instead, it is destroyed. The same irony has arisen in the healthcare sector as massive layoffs are occurring at the very same time that hospitalization and viral caseloads are skyrocketing. When surgeries and other procedures that can be delayed are postponed to preserve protective equipment and hospital beds for pandemic patients and to reduce potential spread, the loss of revenue and of need for staff for the other surgeries and procedures actually exceeds the increase in revenue and staffing needs due to the virus.

A secondary but related ripple effect is the difference in consumption patterns people exhibit when they are at home versus when they are not. The amount and types of food and beverage, the amount and type of clothing worn, transportation needs, recreational activities, internet connections, even bathroom habits all differ significantly when people are at home versus when they are at work, shopping, out for recreation or traveling for business or pleasure. In the same way the sizes, quality level, packaging and even fundamental characteristics of products and services used for one environment are unsuitable for the others.

The education sector has felt both direct and indirect impacts from the virus and mitigation efforts. Schools across the country have been closed at all levels. In their place, efforts to continue education at home with online instruction have been rolled out with varying degrees of success. The limitations of internet connectivity have been exposed, particularly rural versus urban. The internet infrastructure that is currently in place has been challenged by the volume of people using it for more data heavy streaming and live meeting applications, again all concentrated at home when the infrastructure was designed to be most effective in the work environment. Both teachers and parents are struggling with the dual demands of doing their designated work and caring for their children. Some children have actually blossomed with the change in learning environment. However, the change, on the whole, appears be having more negative than positive effects. Since primary and secondary education gets most of its funding from taxes, the same tax revenue issues faced by other government sectors is being experienced by schools as well.

At the post-secondary level, whether in state schools or private schools, the closures have been devastating economically. Loos of tuition and housing payments are not counterbalanced by reductions in operating costs due to the closures. Aside from when schools will reopen, how they will reopen and whether they will still attract the same student volumes are major concerns. Like many other industries, post-secondary schools are not designed to allow for the type of safety measures needed to keep a pandemic at bay. Already, some schools have announced that they will not reopen for on-campus activities this fall. Others have announced they will actually reopen early and then try to finish their fall semester before a potential spike in COVID-19 and influenza in late fall. Online learning was already on the rise in post-secondary settings, somewhat easing the blow for some schools. However, it was nowhere near pervasive enough and certainly not lucrative enough to balance a complete loss of in-person instruction.

International trade has also been affected both directly and indirectly by the pandemic. Although international shipments of goods continue, the closure of borders to personal travel, even business travel, has constricted trade. Changes in consumption patterns and the sudden emergency need for medical supplies of all types have thrown demand and supply out of balance across sectors and across geographies. Disruptions in domestic production, either directly due to closures and illness, or indirectly due to the reallocation of resources to medical production, have added to the imbalance. The open disagreement between the U.S. and China, the world’s two biggest economies, and more generalized antagonism between other countries and China and between various western nations over medical resource allocation increase the likelihood of disruptions to trading relationships and trade balances in the future, even after the pandemic subsides. A corollary to tensions over access to goods is a renewed interest in supporting domestic production. A shift to greater and more diversified domestic production is not necessarily bad in itself. However, the shift in global supply and demand and the potential steps taken to boost domestic production, including tariffs and subsidies, could have significant effects on national and international economic health.

As a critical subset of international trade as well as a major source of domestic spending, tourism has been ground to a virtual halt by the mitigation efforts to fight the pandemic. Air travel and hotel occupancies have dropper to one-tenth of normal levels or less. Closures of foodservice businesses and of major attractions and events have eliminated the primary reason for leisure tourism and the ability to accommodate visitors. International border closures are likely to extend longer than many other restrictions, as are restrictions on major public events and gatherings. This will continue to weigh on the tourism sector. Even when restrictions are eased in general, specific restrictions for certain types of activities and for geographic hotspots are likely to remain in place. Unlike other industries, domestic production cannot be increased to replace international tourism. According to government data, approximately 77 million people visited the U.S. from other countries in 2017. That volume of people and the hard currency they bring with them cannot simply be replaced by boosting domestic travel.

In reality, every sector of the economy has been affected by the pandemic, both the disease and the mitigation efforts. Manufacturing has been hit by illness related closures or efforts to prevent spread and by shifts in production emphases. Construction has lagged to a degree in terms of negative impact but will feel the effects more severely as both private and public construction projects are reevaluated and many cancelled or postponed. Other service sector segments have been closed to prevent spread or at a minimum had their business models disrupted by distancing and working from home. Real estate, insurance, farming, mining and extraction, trade, transportation, utilities, information, you cannot name a sector that has not experienced some ill effects. There have been a few, very few, subsectors and individual businesses that have had substantial increases in demand due to current conditions, but they are far between. As noted with healthcare earlier, even when there would seem to be a sudden increase in demand, it is not necessarily the type or volume of demand that can replace other business lines that have been curtailed.

All of the ripple effects described in the preceding paragraphs are immediate and short-term effects of the acute phase of the current crisis. However, some of the effects are likely to continue beyond the acute stage of the pandemic itself and of government restrictions and other mitigating efforts. Aside from actual closures for businesses that could not survive the acute phase, changes in operating procedures and customer behavior spurred by the pandemic will have lingering, in some cases permanent, effects on economic performance long after the pandemic has passed. Those effects will change productivity, demand patterns and pricing.

Businesses of all types are scrambling to develop new ways of working and serving customers that allow for greater distance between individuals and more protection from casual contact. At present everything is jury-rigged and correspondingly less efficient or durable. While more effective and permanent solutions will certainly be developed than plastic sheeting and bandanas, even more purpose built, comfortable and flexible solutions cannot overcome the changes in workflow and personal interactions such barriers and spacing create.

From the standpoint of productivity, spacing, barriers and PPE will reduce the amount of production per any measure you care to use, square foot, employee, input, day/week, or any other denominator. Not only are there physical limitations to producing as much as before, the negative effects on employee morale and stamina, particularly from PPE use, are bound to affect their productive capacity. Over time, new methods and innovations will improve productivity in the new environment, but only after much trial and error. With lower productivity, pricing models will change, barriers to entry will increase, investment in expansion will be eyed more critically, economies of scale will be affected and various other economic drivers will shift in importance and pattern. Disruptions to the supply chain are already calling into question the assumptions behind limited inventory and "just-in-time" purchasing. While the efficiency benefits of such models preclude complete abandonment of the concepts, diversification of suppliers and increases in par stocking are likely, neither of which aid efficiency but both of which add robustness.

In some industries, the new constraints could generate increased consolidation as capital and market access become even more important. However, the drive for more diversified and local production and the spreading of expertise and ingenuity that occurs when large layoffs and closures take place could easily lead to a new blossoming of smaller, more geographically diverse and more narrowly focused business ventures.

From a customer standpoint, behaviors are being affected in a variety of ways, all of which point toward potential reductions in demand even when businesses are reopened. Concerns over personal health, even amongst those who are vocal about "getting back to normal," will inevitably reduce the number of times customers engage in commerce outside of their homes and the manner in which they do it. While online ordering can make up a large portion of the lost in-person sales, it is unlikely to replace it completely and will only reach its full replacement value over time. Aside from health concerns, the quality of the customer experience will be permanently affected in the same way that the work environment for the employee will change. Personal service will change and generally be diminished. Travel convenience is likely to take a permanent hit. Leisure industry capacities will be reduced, affecting access, wait times and pricing. Changes already underway in the retail environment will be accelerated and shifted in different directions than pre-pandemic patterns would have suggested.

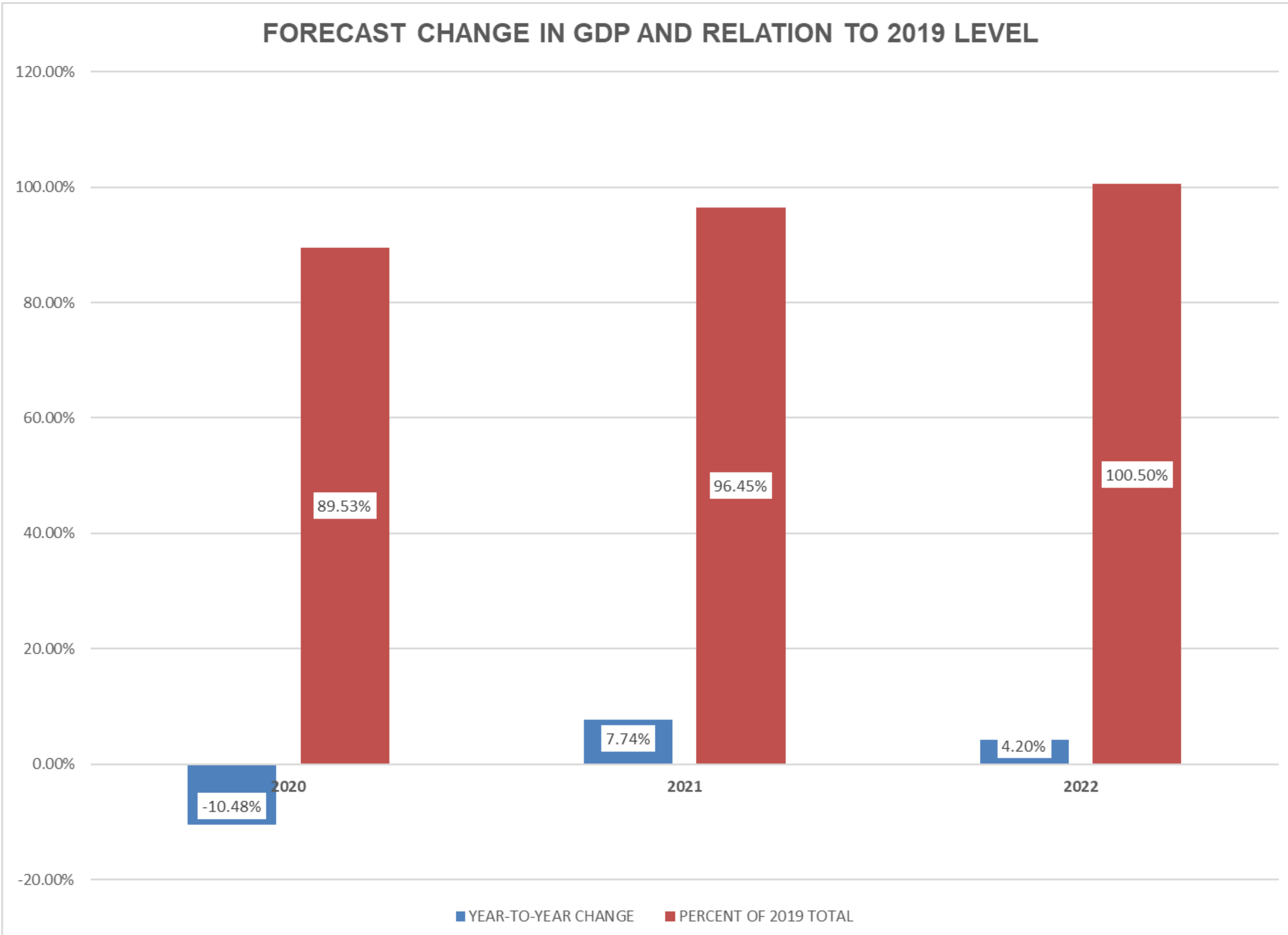
Beyond customer experience and practical impacts, personal behavior is also going to be affected by the lingering psychological impacts of the twin health and economic crises. Increases in savings rates, insurance demand, and healthcare spending are likely. Retirement planning and particularly congregate care for the elderly are likely to experience profound long-term impacts. Questions of urban density, public transportation, large corporate employment and work-life balance will be reevaluated. At both the personal and professional level, the balance between online and in-person interaction can be expected to remain shifted even after it is no longer required. The cost-benefit of education and the most cost-effective means of accessing it will also be reevaluated.

If, as we believe likely, the pandemic and the associated economic crisis last into the next 18 to 24 months or more, the memories and changes in habits for individuals and companies will become sufficiently ingrained to impact behavior long afterwards. Those who lived through the Great Depression continued behavior patterns they developed at the time through their whole lives. While the current crisis, despite its short-term intensity, is not expected to linger for as long or be as severe, other shorter-term but notable crises, such as the Great Recession, 9/11, the savings and loan crisis, stagflation, the energy crisis and the like, demonstrate that behavior patterns that changed at the time remain after. The same is expected for the COVID-19 pandemic.

Forecasting changes in key national economic indicators, such as GDP, unemployment and inflation must take into consideration not only the long-term patterns of recovery, but also the effects of the short-term crisis on 2020 figures. Even if the economy immediately returned to prior activity levels upon the elimination of any governmental restrictions, which it will not, numbers for 2020 would show the effects of the period of massive closures. Seasonality aside, closing a business or an industry for a week means a drop of 1.9 percent for the year, unless the lost business doubles up during recovery, which is unlikely. At five weeks, a drop of nearly 10 percent would occur without some form of bounce back. To the extent that business volume after the closure continues to fall below prior levels, just not to the same degree, the overall decline would be greater still. With reduced capacity due to new operating rules, lower business volume is inevitable.

Just as current year numbers will necessarily show a significant decline even if restrictions are lifted and demand returns more quickly than expected, key indicators in 2021 and 2022 will benefit from comparison to the uniquely constrained environment of 2020 and are almost certain to be up from this year simply due to an end to the more severe restrictions. There is a difference, however, between showing growth over 2020 and returning to the levels present in 2019 before the pandemic began. None of this is to say that recovery will not occur. Even with major systemic changes, economic growth can occur and can ultimately equal or surpass prior highs. Nobody could argue that the convenience, efficiency, comfort, and perceived safety of air travel today is the same as before 9/11. Nevertheless, prior to the pandemic, air travel had long since adjusted to the new environment and reached volumes greater than before the attack.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in U.S. GDP for 2020 of approximately 10.5 percent. GDP for 2021 is forecast to grow by approximately 7.7 percent in 2021 over 2020 levels but still remain approximately 3.5 percent below 2019. GDP is forecast to grow by 4.2 percent in 2022 over 2021 and finally surpass the 2019 level by 0.5 percent by the end of the year. This information is presented in the graph on the following page.

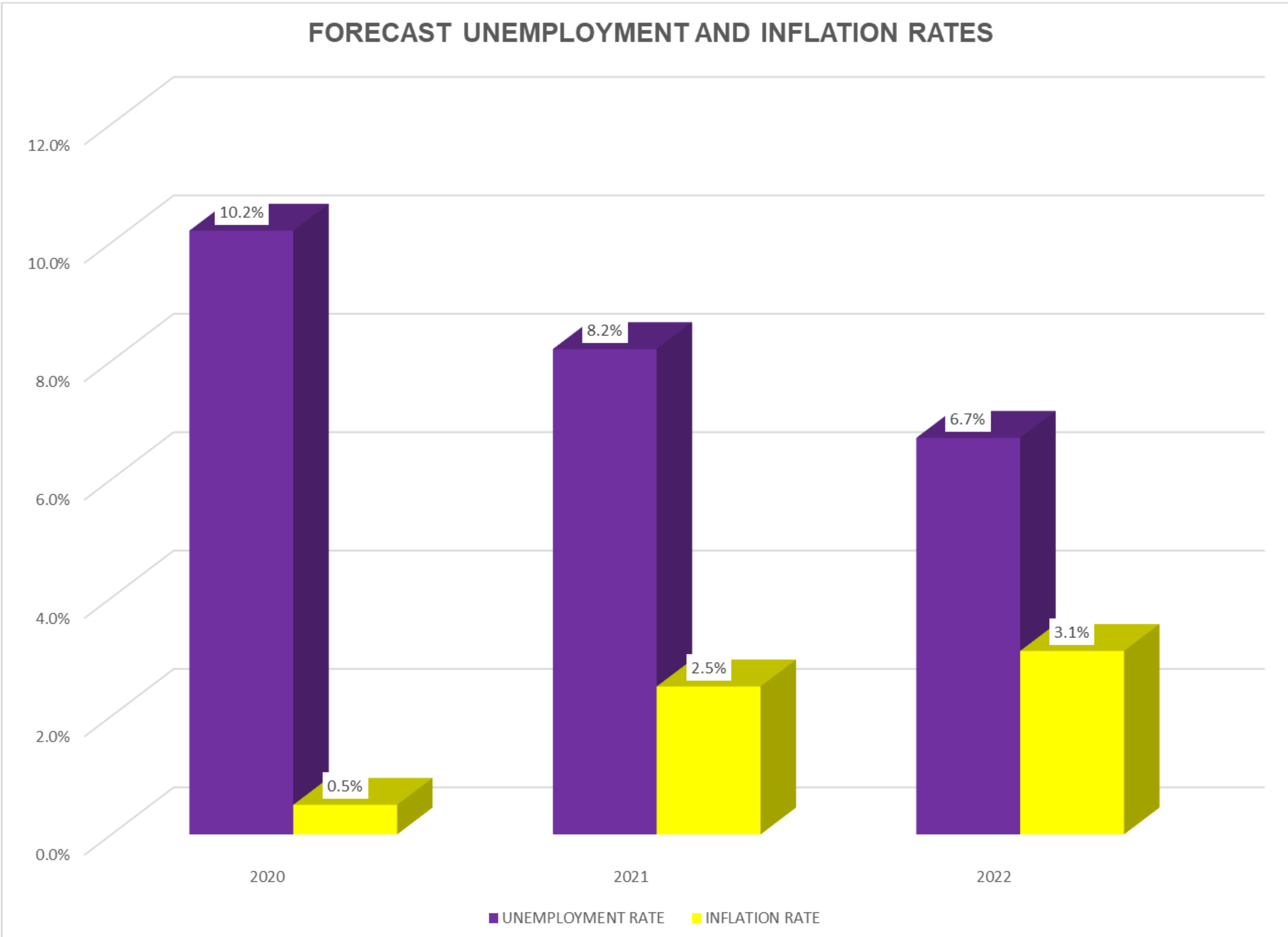

FORECAST CHANGE IN GDP AND RELATION TO 2019 LEVEL
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
-20.00%
89.53%
96.45%
100.50%
-10.48%
7.74%
4.20%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

As noted previously, unemployment tends to lag GDP and other economic indicators as an economy recovers. Employers are cautious about ramping up employment, particularly in back office and administrative areas or in opening second and third shifts when demand first returns. As a result, we do not expect employment to recover as quickly after the pandemic. Indeed, we do not expect the unemployment rate to return to 2019 levels until well after 2022, if at all. We have already noted that the unemployment rate had fallen continuously for the past decade even though GDP growth was below three percent. We expect a return to more traditional patterns in the aftermath of the current crisis and the distinct possibility that unemployment rates below four percent will not be seen again for several years.

Like GDP, the closures and other reductions during the current acute phase of the crisis will yield an annual average unemployment rate dramatically higher than in 2019 even if/as recovery begins. Unlike GDP, however, the unemployment rate is not a comparison to prior year activity but to current labor force and employment numbers. Nevertheless, the growth in the next two years as economic output returns to pre-pandemic levels will reduce the unemployment rate from this year’s crisis high. At the same time, we anticipate that there will be a modest but measurable reduction in the labor force as some nearing retirement and some formerly two-income families choose to remain out of the workforce permanently rather than reengaging. Based upon these considerations and the assumptions and analyses described, we forecast an annual average unemployment rate for the U.S. as a whole of 10.2 percent for 2020, declining to 8.2 percent for 2021 and 6.7 percent for 2022.

In a sharp downturn such as the current crisis, actual deflation is a possibility. However, the intervention of the Federal Reserve and federal and state governments is expected to prevent deflation from occurring this year. As recovery begins next year and extends through 2022, we expect the inflation rate to move from negative pricing pressure due to the drop in demand to positive pressure due to the massive level of debt driven government intervention and the realities of sustaining profit margins in a less productive more expensive cost environment. In particular, we expect that current “hazard pay” increases in some industries will be more difficult to eliminate than they were to extend in the first place. This will also put pressure on operating costs and on pricing. Based upon our assumptions regarding the pandemic and the considerations described we forecast an annual inflation rate for the U.S. economy of 0.5 percent for 2020, followed by inflation rates of 2.5 percent and 3.1 percent in 2021 and 2020 respectively.

The forecasted unemployment and inflation rates described are shown in the graph on the following page.


FORECAST UNEMPLOYMENT AND INFLATION RATES
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
10.2%
0.5%
8.2%
2.5%
6.7%
3.1%
2020
2021
2022
UNEMPLOYMENT RATE
INFLATION RATE

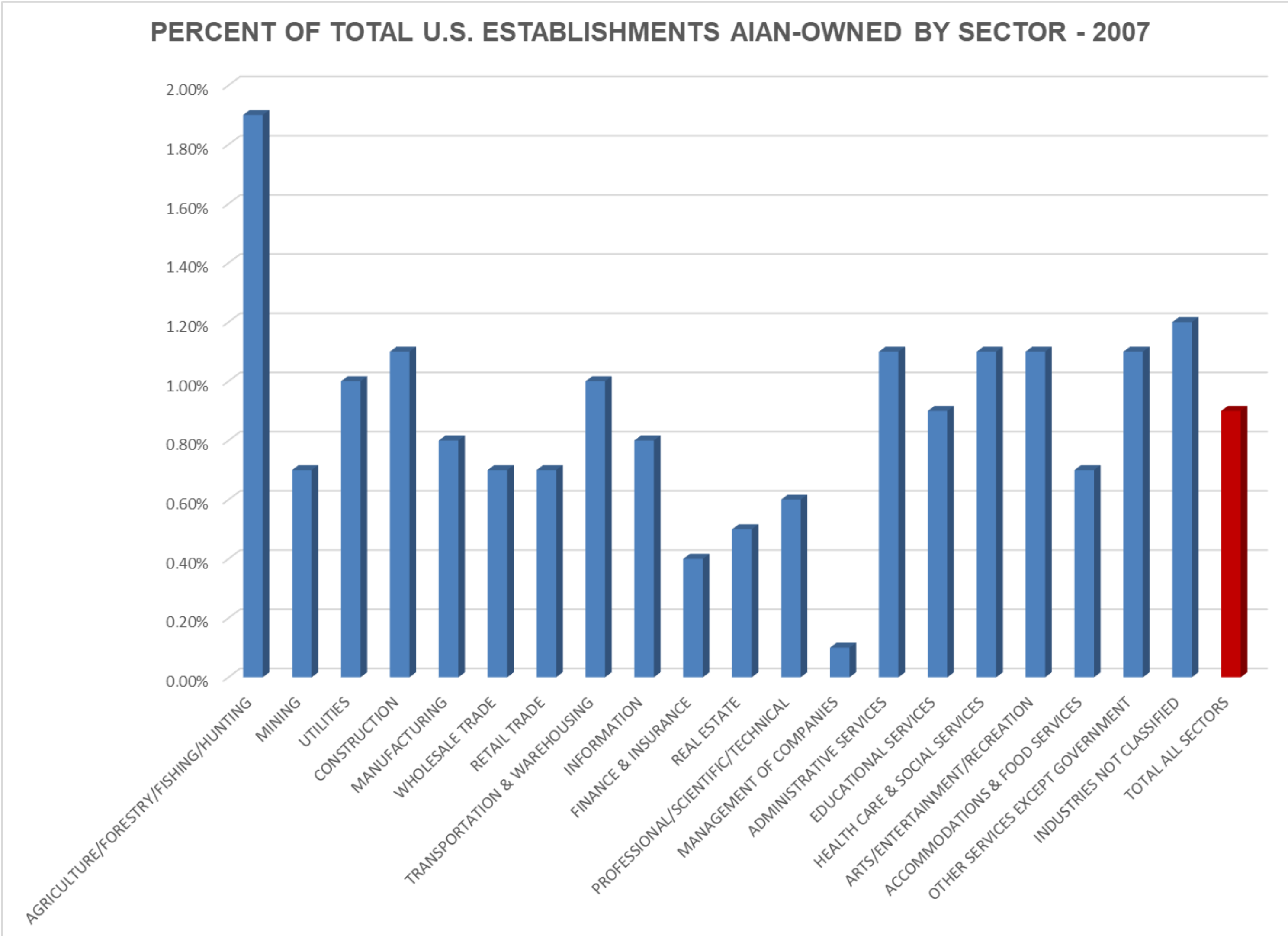
TRIBAL ECONOMIES

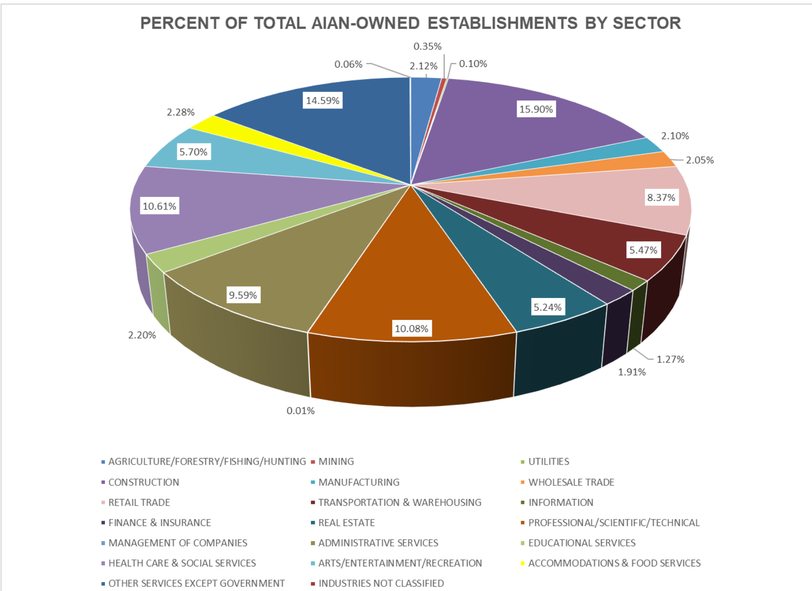
PRE-CRISIS CONDITIONS

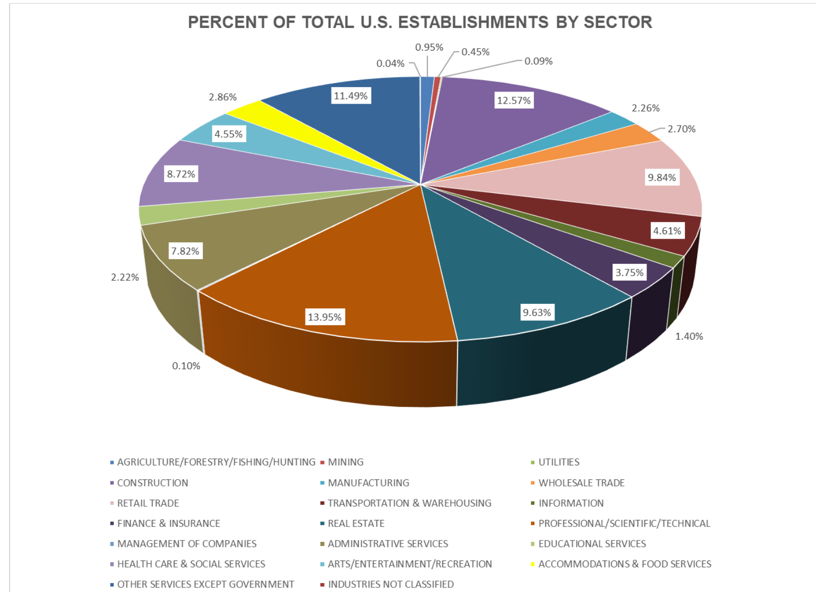
While significant information is available on the basic demographic characteristics of American Indian and Alaska Native (AIAN) populations, information on the businesses and economies of reservations is more sparse and less current. According to the 2007 Survey of Business Owners, prior to the Great Recession, AIAN-owned establishments accounted for 0.9 percent of all business establishments in the U.S. at that time. There were 236,937 AIAN-owned establishments in the U.S. in 2007. By sector, AIAN establishments accounted for the greatest percentage in the Agriculture/Forestry/Fishing sector, although still representing only 1.9 percent of total establishments. The lowest percentage sector for AIAN ownership was Management of Companies and Enterprises at 0.1 percent.

In terms of the relative contribution of each sector to the total number of AIAN-owned establishments, the top four sectors by establishment are Construction, Other Services, Healthcare and Professional/Scientific/Technical Services in that order. In comparison to the establishments patterns for the U.S. as a whole, the general distribution is somewhat similar but with certain key sectors having more or less importance. Construction, Healthcare, Administrative Services, Agriculture, and Other Services comprise a larger share of AIAN-owned establishments than they do in the rest of the country. Conversely, Retail Trade, Finance and Insurance, Professional/Scientific/Technical Services and Real Estate establishments comprise a larger sector of non-AIAN-owned firms. The graphs on the following two pages show percentage of AIAN-owned establishments by sector compared to total establishments and to total AIAN-owned establishments.

Of the total of 236,937 AIAN-owned establishments, only 23,704, or about 10 percent had employees. The remaining 90 percent are characterized as non-employer establishments, such as sole proprietors, sole practitioners, independent contractors and the like. Total receipts for AIAN-owned establishments in 2007 equaled approximately \$34.4 billion, up 28 percent from 2002. The 10 percent of establishments that had employees accounted for 80 percent of all receipts by AIAN-owned businesses at approximately \$27.5 billion, up 25 percent form 2002. AIAN establishments with employees employed 184,416 people in 2007, an average of fewer than eight per establishment, down from 191,270 in 2002. Total payroll equaled approximately \$5.9 billion at the establishments with employees for an average of \$32,140 per job in 2007. Payroll was up 15 from 2002, despite fewer total employees. Total receipts for AIAN-owned non-employer establishments equaled approximately \$6.9 billion in 2007, up 41 percent from 2002, for an average of \$32,230 per non-employer establishment.


PERCENT OF TOTAL U.S. ESTABLISHMENTS AIAN-OWNED BY SECTOR - 2007
2.00%
1.80%
1.60%
1.40%
1.20%
1.00%
0.80%
0.60%
0.40%
0.20%
0.00%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE & INSURANCE
REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENT OF COMPANIES
ADMINISTRATIVE SERVICES
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
INDUSTRIES NOT CLASSIFIED
TOTAL ALL SECTORS

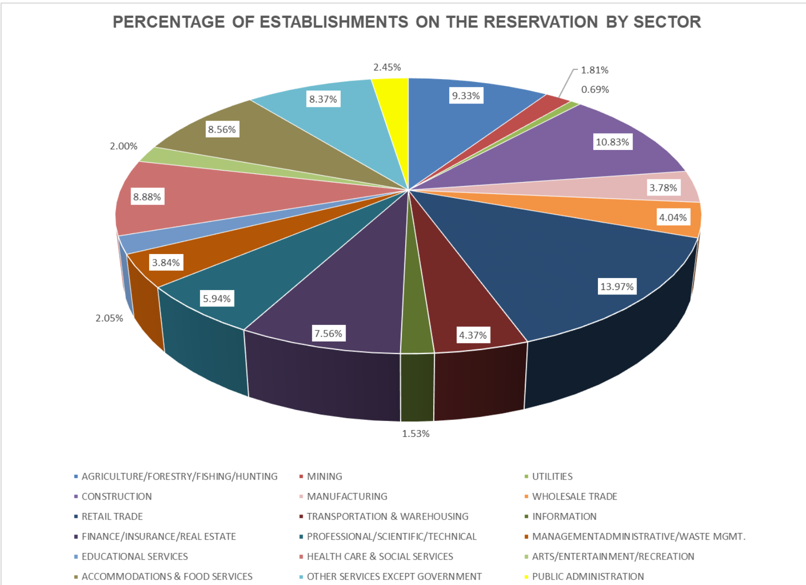

PERCENT OF TOTAL AIAN-OWNED ESTABLISHMENTS BY SECTOR
0.35%
0.06%
2.12%
0.10%
14.59%
15.90%
2.28%
2.10%
2.05%
5.70%
8.37%
10.61%
5.47%
9.59%
5.24%
10.08%
2.20%
1.27%
1.91%
0.01%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE & INSURANCE
REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENT OF COMPANIES
ADMINISTRATIVE SERVICES
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
INDUSTRIES NOT CLASSIFIED

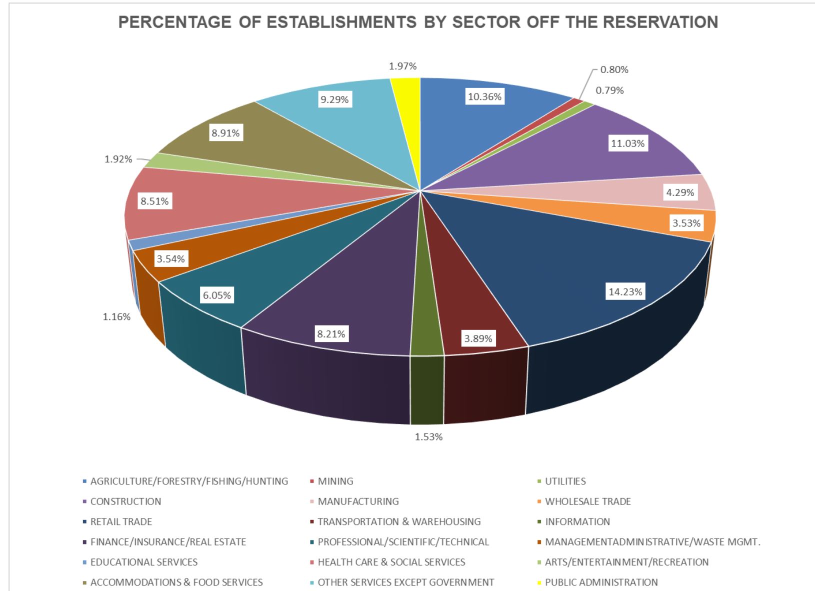

PERCENT OF TOTAL U.S. ESTABLISHMENTS BY SECTOR
0.95%
0.45%
0.04%
0.09%
11.49%
12.57%
2.86%
2.26%
2.70%
4.55%
8.72%
9.84%
4.61%
7.82%
3.75%
2.22%
9.63%
13.95%
1.40%
0.10%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE & INSURANCE
REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENT OF COMPANIES
ADMINISTRATIVE SERVICES
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
INDUSTRIES NOT CLASSIFIED

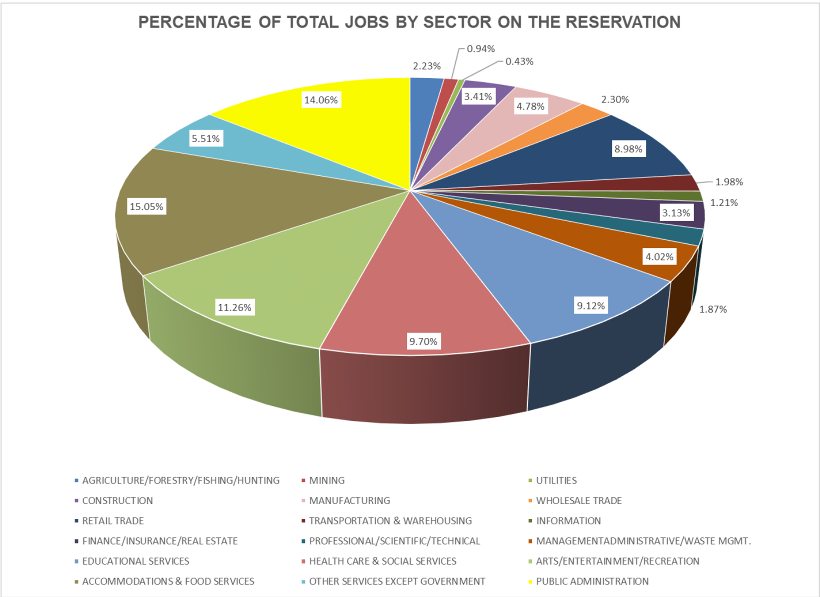
While more current establishment data from more recent Small Business Owner surveys specific to AIAN-owned firms has not been published, more targeted studies of the economies of reservations and of their surrounding non-reservation areas have been conducted in recent years. In 2017, the Center for Indian Country Development published a working paper (2017-02) comparing the total number of establishments by industry sector located on reservations to off-reservation establishments in the 10 nearest counties to the reservations. Both establishment counts and employment counts were compared.

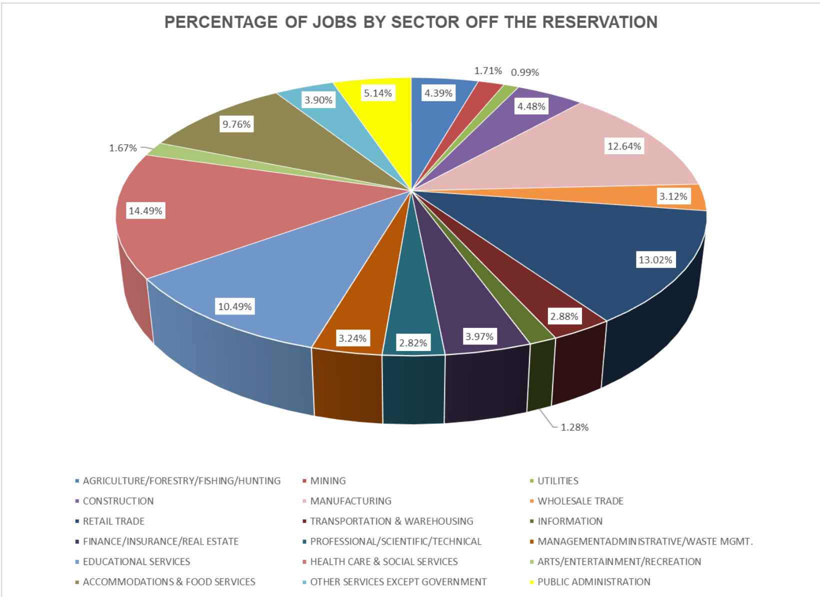
According to the analysis, there were 281,300 establishments within the 514 counties included, of which only 5.2 percent or 14,601 were actually located within the boundaries of one of the 277 reservations included. Across the industrial sectors, only Mining/Quarrying/Extraction and Educational Services had more establishments located on the reservation per capita than off. The relative percentage of establishments by sector were much closer between on and off reservation areas than in the national statistics from 2007 previously described. It is important to note, however, that the figures from 2007 reflect AIAN versus non-AIAN ownership regardless of the location of the business and cover the entire country. The statistics from the 2017 working paper reflect only businesses on or near reservations and do not take ownership into account. Only Mining and Extraction shows a notable difference between percentages of total establishments on and off reservation, with a higher percentage of total on-reservation establishments in that sector than percentage off reservation. The graphs on the following page show percentages of establishments by sector on and off of the reservation from the working paper.

In contrast to the establishment figures, there is considerable variation in the relative importance of each sector to employment on and off of the reservations. The primary reason is the dramatic difference in employment per establishment in the Arts/Entertainment/Recreation sector due to Indian gaming. As will be discussed in more detail later in this section, Indian gaming has allowed for the development of a number of very large and labor-intensive facilities on Indian reservations that surpass the majority of employers in the surrounding rural areas. As a result, total on-reservation employment for the geographies measured is a much higher percentage of total area employment than establishment counts would suggest. According to the working paper, there were a total of nearly 3.3 million jobs in the 514 counties, equating to 11.7 per establishment. However, establishments on the 277 reservations employed nearly 302,000, or 9.2 percent of that total, an average of 20.7 per on-reservation establishment. Several sectors, most but not all related to Indian gaming, had higher employment on the reservation per capita than off, including Arts/Entertainment/Recreation at a whopping five times as high, as well as Accommodations & Foodservice, Other Services, Public Administration, Management and Administrative Services and Information. Indeed, total employment per capita was higher on the reservation than off. It should be noted that these figures pertain to the location of the jobs, not the residence locations or ethnicities of the employees. The graphs on page 57 show percentages of employment by sector on and off of the reservation from the working paper.


PERCENTAGE OF ESTABLISHMENTS ON THE RESERVATION BY SECTOR
9.33%
1.81%
0.69%
10.83%
3.78%
4.04%
13.97%
4.37%
1.53%
7.56%
5.94%
3.84%
2.05%
8.88%
2.00%
8.56%
8.37%
2.45%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE/INSURANCE/REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENTADMINISTRATIVE/WASTE MGMT.
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
PUBLIC ADMINISTRATION


PERCENTAGE OF ESTABLISHMENTS BY SECTOR OFF THE RESERVATION
10.36%
0.80%
0.79%
11.03%
4.29%
3.53%
14.23%
3.89%
1.53%
8.21%
6.05%
3.54%
1.16%
8.51%
1.92%
8.91%
9.29%
1.97%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE/INSURANCE/REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENTADMINISTRATIVE/WASTE MGMT.
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
PUBLIC ADMINISTRATION


PERCENTAGE OF TOTAL JOBS BY SECTOR ON THE RESERVATION
2.23%
0.94%
0.43%
3.41%
4.78%
2.30%
8.98%
1.98%
1.21%
3.13%
4.02%
1.87%
9.12%
9.70%
11.26%
15.05%
5.51%
14.06%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE/INSURANCE/REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENTADMINISTRATIVE/WASTE MGMT.
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
PUBLIC ADMINISTRATION


PERCENTAGE OF JOBS BY SECTOR OFF THE RESERVATION
4.39%
1.71%
0.99%
4.48%
12.64%
3.12%
13.02%
2.88%
1.28%
3.97%
2.82%
3.24%
10.49%
14.49%
1.67%
9.76%
3.90%
5.14%
AGRICULTURE/FORESTRY/FISHING/HUNTING
MINING
UTILITIES
CONSTRUCTION
MANUFACTURING
WHOLESALE TRADE
RETAIL TRADE
TRANSPORTATION & WAREHOUSING
INFORMATION
FINANCE/INSURANCE/REAL ESTATE
PROFESSIONAL/SCIENTIFIC/TECHNICAL
MANAGEMENTADMINISTRATIVE/WASTE MGMT.
EDUCATIONAL SERVICES
HEALTH CARE & SOCIAL SERVICES
ARTS/ENTERTAINMENT/RECREATION
ACCOMMODATIONS & FOOD SERVICES
OTHER SERVICES EXCEPT GOVERNMENT
PUBLIC ADMINISTRATION

The same authors of the 2017 working paper, Randall Akee, Elton Mykerezi and Richard Todd, also published a follow up analysis of non-employer establishments on and off reservations in the same geographic areas used in their 2017 study. According to the analysis, there were 684,800 establishments within the 514 counties included, of which only 0.7 percent or 39,322 were actually located within the boundaries of one of the 277 reservations included. Across the industrial sectors, only the Mining/Quarrying/Extraction and Educational Services sectors had more establishments located on the reservation per capita than off. Receipts for the non-employer establishments located on the reservations totaled nearly $2.4 billion, representing 0.8 percent of total non-employer establishment receipts in the designated areas, slightly higher than the establishment ratio. Non-employer establishments on reservations averaged $60,313 in receipts per establishment.

One year ago, one of the authors, Richard Todd, published a secondary analysis for the Center for Indian Country Development of one of the somewhat unexpected results of their 2017 and 2018 work, namely a finding of a higher average of jobs per capita on reservations than in surrounding counties. This would seem to contradict the known gaps between unemployment rates and incomes for AIAN versus the general populace. The 2019 paper, (2019-04) found that the higher overall averages found in the prior studies were due primarily to high employment rates at Indian casinos and in public administration for a relatively small number of very successful gaming tribes that skewed the overall results. The impact of gaming and public administration can be seen in part in the older studies by virtue of their much higher proportion of total employment on the reservation than off. Nearly all of the variation can be identified in the Arts/Entertainment/Recreation, Accommodation and Foodservice and Public Administration sectors. On the Public Administration side, part of the variation is attributable to the unique legal, governmental and economic environments of Indian tribes that focus most economic activity through tribal government channels. However, the magnitude can also be attributed to the impact of large casino resorts that provide more significant funding for governmental operations than available to tribes lacking facilities of comparable scale.

The skewing of the overall averages was further confirmed by the significant difference in distribution of the jobs per capita figure between reservations and their neighboring counties. Basically, the distribution of jobs per capita for surrounding counties was tightly clustered between 0.4 and 1.2, with a strong peak around the overall average of roughly 0.6 jobs. While the curve was not precisely bell shaped, sporting a slightly elongated tail out as far as 2.5 to 3.0 jobs per capita, the tail was not significant enough to skew the average to a substantial degree.

By contrast, the curve for reservations was much more dispersed and with a greatly elongated and more substantial tail. There are actually a higher proportion of reservations with per capita job counts of well below 0.5 and the overall peak of the distribution, although uneven, stretches from approximately 0.3 to 0.8. From that peak, however, the distribution stretches out in measurable amounts as far as five jobs per capita, with many reservations falling in the 3.0 to 5.0 jobs per capita range. More detailed exploration of the job counts by sector showed that the extended tail was largely attributable to NAICS categories 71 and 72, the aforementioned Arts/Entertainment/Rec. and Accommodations/Food categories. It is also important to reiterate that the job counts described are based on the location of the employer, not the residential locations or racial/ethnic makeup of the employees. While many tribal members work for their own governments and in their own casinos, they do not all live within their reservation boundaries and they are not the only employees of those entities. Significant employment of non-Native residents in the surrounding area in addition to tribal members is one of the major positive economic impacts of Indian gaming operations nationally.

The significant positive impact of Indian gaming on tribal economies is undeniable. No other industry sector or economic initiative has had the type of positive impact on tribal economies in terms of magnitude, speed and consistency in the history of relations between the U.S. and resident tribes. According to a recent economic impact study of Indian gaming by Dupris Consulting Group for the National Indian Gaming Association, Indian casinos and their ancillary facilities transferred nearly $12.6 billion in funds to their owning tribes for governmental services and member benefits. They also supported over 312,500 jobs directly and generated a total economic impact of nearly $89 billion for their home reservations and surrounding non-native communities. Indeed, an estimated 75 percent of jobs in Indian gaming are held by non-tribal citizens.

The growth of Indian gaming in the U.S. has been remarkable and remarkably durable. Since the passage of IGRA in 1988, Indian gaming revenue has increased in every single year but two and declined only once, from 2008 to 2009 during the Great Recession, by less than one percent. After remaining steady the following year, it resumed its upward march. Total gaming win at Indian casinos equaled $33.7 billion in 2018, according to the National Indian Gaming Commission (NIGC). Indian casinos have closed to within 20 percent of the gaming win at commercial casinos across the country. While 2019 figures have not yet been released, additional growth over 2018 is assured. The following table shows gaming revenue at Indian casinos from 2009 through 2018 from NIGC data compared with gaming win at commercial casinos for the same years.

HISTORIC GAMING REVENUE COMPARISON – 2009 to 2018

(dollars in $billions)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Commercial Casinos*	$34.30	$34.60	$35.60	$37.30	$37.80	$37.90	$38.30	$38.70	$39.90	$41.70
Percent Growth	-5.20%	0.90%	2.90%	4.80%	1.30%	0.30%	1.10%	1.04%	3.10%	4.51%
Indian Casinos (Class II & Class III)	$26.50	$26.50	$27.20	$27.90	$28.00	$28.50	$29.90	$31.20	$32.40	$33.70
Percent Growth	-0.70%	0.00%	2.60%	2.60%	0.40%	1.80%	4.90%	4.30%	3.85%	4.01%
Ratio - Indian/Commercial	0.77	0.77	0.76	0.75	0.74	0.75	0.78	0.81	0.81	0.81

*** Commercial casinos include private sector (i.e. non-governmental), land-based, dockside riverboats and racinos**

Source: American Gaming Association, National Indian Gaming Commission and KlasRobinson Q.E.D.

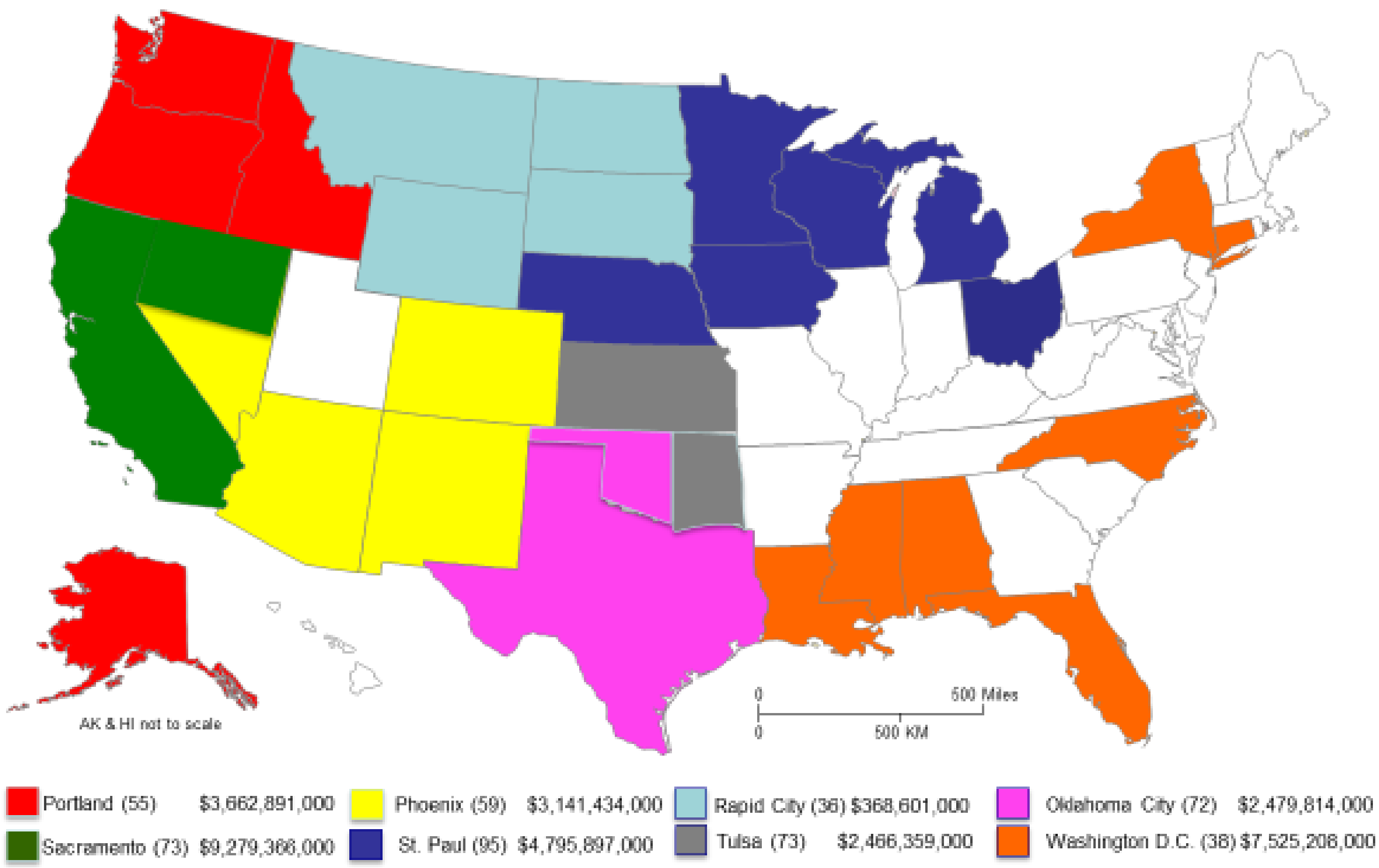
The National Indian Gaming Commission also tracks Indian gaming revenues by region through its seven regional offices. The following table presents a summary of Indian gaming revenues by region. This information is also presented in the map on the following page.

FY 2018 Indian Gaming Revenue Distribution by Region

Region / Office Location (States within Region)	Gaming Revenues	Gaming Operations	Revenue Per Operation
Region I - Portland Office (AK, ID, OR, WA)	$3,662,891,000	55	$66,598,000
Region II - Sacramento Office (CA, Northern NV)	$9,279,366,000	73	$127,115,000
Region III - Phoenix Office (AZ, CO, NM, Southern NV)	$3,141,434,000	59	$53,245,000
Region IV - Saint Paul Office (IN, IA, MI, MN, NE, WI)	$4,795,897,000	95	$50,483,000
Region V - Rapid City Office (ND, SD, MT, WY)	$368,601,000	36	$10,239,000
Region VI - Tulsa Office (KS, Eastern OK)	$2,466,359,000	73	$33,786,000
Region VII - Oklahoma City Office (Western OK, TX)	$2,479,814,000	72	$34,442,000
Region VIII - Washington D.C. Office (AL, CT, FL, LA, MS, NC, NY)	$7,525,208,000	38	$198,032,000
Total	**$33,719,569,000**	**501**	**$67,305,000**

Source: National Indian Gaming Commission and KlasRobinson Q.E.D.

FY 2018 Indian Gaming Revenue Distribution by Region



Source: National Indian Gaming Commission/KlasRobinson Q.E.D.

Despite the success of Indian gaming and the contributions of other industry sectors to tribal economies, the overarching economic picture for AIAN remained challenged even before the onset of the pandemic. According to data from the U.S. Census Bureau, 23.7 percent of AIAN live in poverty. The average household income amongst AIAN was $44,772 in 2018, with a per capita income of $20,709. Over 54 percent of AIAN households have income levels below $50,000. Approximately 22.6 percent of AIAN households require food stamp/SNAP assistance. Over 19 percent of AIAN do not have health insurance coverage.

The digital divide between urban and rural, poor and rich, is even more pronounced in Indian country. According to the Center for Indian Country Development, only 61 percent of households on Indian reservations have access to broadband internet. This compares to 69 percent nationwide. Even the surrounding communities in areas that boarder reservations have higher broadband coverage at 70 percent despite often being considered rural areas themselves. Indeed, census data indicates that nearly 12 percent of AIAN do not even have a computer. Lack of computer and broadband access is especially challenging during a time when shopping, education and interpersonal communications with extended family and friends is restricted to the internet in many cases.

INITIAL IMPACTS

Indian country has been affected by the pandemic along with the rest of the United States and the world. According to a tracking websheet maintained by the publication "Indian Country Today," a total of 4,912 confirmed cases of COVID-19 had been reported to the Indian Health Service as of May 14th with 151 deaths. The Navajo Nation has been particularly hard hit, accounting for 102 or over two-thirds of the total deaths from the virus in Indian Country. However, the virus has spread throughout Indian country, with infections amongst Native Americans in nearly all states that have reservations within their boundaries. In some cases, tribes have taken more stringent safety precautions than their surrounding states. Two South Dakota tribes have been threatened with lawsuits by the state governor for erecting checkpoints on highways at the entrances to their reservations and imposing restrictions on visitors to prevent spread within their boundaries. Other tribes have taken similar measures.

As already mentioned, every Indian casino in the country closed to mitigate the spread of the virus. This is a huge blow to the industry and to the proceeds tribes depend upon to help fund government services and member incomes. Because of the importance of Indian gaming to tribal government revenue and tribal economies, the restrictions on tourist and leisure businesses have hit tribes disproportionally. Most of the closures occurred during the month of March and only very recently have a handful of casinos begun a cautious reopening.

An example of the impact can be seen in slot revenue for Connecticut's two major Indian casinos, Foxwoods and Mohegan Sun. In February of this year, before the virus was known to be widespread and before closures began, Foxwoods had slot revenue of $35.7 million according to state revenue sharing data, up 4.5 percent form 2019. In March, when the virus ravaged New England and the country as a whole and the shut downs began, slot revenue was $13,989,529, down over 65 percent from March of 2019. The same pattern hit Mohegan Sun, February slot win of $44,460,839, up 2.2 percent from 2019, followed by March revenue of $19,503,520, down 62 percent from last year. Of course, the declines have been 100 percent through April and May and will remain that way until the casinos reopen, currently scheduled for June 1st on a limited basis.

Indian country is dependent on tourism for more than just gaming revenue. Other tourist related businesses have suffered as greatly as casinos from the pandemic and mitigation efforts. According to a survey of native and tribally-owned tourist businesses on April 1st, by AIANTA (American Indian/Alaska Native Tourism Association), nearly 92 percent had received cancellations because of the pandemic totaling over 17,000 individual reservations. Decreases in domestic booking were reported by nearly 94 percent of respondents, while 98 percent were expecting losses in revenue for the year. Of those expecting lost revenue, 60 percent said they expect to lose 50 percent of their annual revenue or more. In addition to domestic bookings, international bookings were down as well, a major source of tribal tourism spending. According to other research by AIANTA, approximately two million international travelers visit tribal lands and attractions each year, spending $8.5 billion dollars during their trips.

Tourism is not the only sector to experience impacts from the pandemic and mitigation efforts. The Intertribal Agriculture Council has also surveyed tribal leaders and producers on the effects of the crisis on their businesses. Over 83 percent indicated that their production/business had been negatively affected by COVID-19. The most commonly listed impacts were loss of future sales, loss of cash flow and/or cash reserves, reductions in workforce (including seasonal labor) and supply chain disruptions. Approximately 46.4 percent anticipate losses of at least $10,000 in revenue due to the crisis, with 7.4 percent projecting losses above $100,000. Given that the average AIAN-owned farm sold only $58,252 in product in 2017, according to the U.S. Census of Agriculture, a loss of even $10,000 is substantial. Over 10 percent of respondents indicated that the crisis had already resulted in a business closure, with another 7.7 percent indicating a partial closure.

Similar stories and statistics can certainly be found in other sectors in Indian country and mirror the broader experience of the U.S. economy as a whole. As long as the crisis continues, assumed to be through early summer of next year as already discussed, serious disruptions will also continue, although they may ebb and flow to some degree. Even after the pandemic is brought under control and restrictions are removed on a more permanent basis, recovery will take time and will vary in speed and magnitude by industry sector and geography.

PROGNOSIS BY SECTOR

Gaming

Our prognosis for tribal economies begins with gaming because of its unique importance to Indian country, as previously referenced. In the same manner that closures across various sectors of the U.S. economy will result in negative year-over-year performance even if business returns to full volume when facilities reopen, Indian gaming will experience a drop for 2020 simply due to the current closures, let alone any future results later this year. Unfortunately, even after casinos begin to reopen, business will not return to previous levels, not this year or even the next. There are several reasons for this.

First and foremost, structural changes to operating procedures will necessarily have a negative impact on revenue potential after casinos reopen. The general pattern so far seems to be a reopening with around 50 percent of capacity on the gaming floor. This is accomplished by turning off or removing machines to create additional spacing to meet six-foot distancing targets and by controlling the total number of customers allowed into the property at a given time. Some of the facilities that have reopened have had to temporarily suspend admittance during peak periods to avoid exceeding capacity targets. Table games are even more problematic. The pattern so far appears to include a reduction in tables open as well as a reduction in the number of players allowed at each table and the installation of plexiglass barriers between seats. Given the higher labor costs associated with table games, this will have an outsized impact on table-game profitability and likely affect gaming mix into the future.

Capacity changes go beyond the gaming floor. Concerts and other large-attendance events remain cancelled or postponed. Foodservice and lodging capacities have also been restricted. Cleaning requirements have slowed customer turnover, while distancing requirements have lengthened lines during waits. While the lengthening has more to do with distance than number of people, the customer perception of longer lines still occurs. Staff are being required to wear masks. This affects their personal comfort, efficiency and ability to communicate. Rules for masking customers vary by property, with most if not all recommending them but many not requiring them. Those that do have handed out masks to customers that did not bring them and have, in rare instances, turned customers away. While that is not known to have resulted in any ugly incidents at Indian casinos, shootings and other intimidation by customers of employees at other businesses around the country, though rare, point to very real risks for staff. The wearing of masks raises other issues, such as smoking and eating/drinking, both difficult to do in a masked environment. Non-smoking areas on the gaming floor have been expanded in some instances to deal with the problem.

Fortunately, the standard deviation for revenue per customer per visit for gaming is quite large, unlike nearly all other businesses dependent upon direct customer interaction in large numbers. A small number of key customers, sometimes referred to as “whales” in the old casino vernacular, generate a disproportionately large amount of gaming revenue. As a result, a reduction in capacity by 50 percent does not have to automatically mean a reduction in revenue by 50 percent. In addition, casinos do a large percentage of their total revenue in certain short periods of time, generally weekend and holiday evenings. For much of the week and the vast majority of the hours they are open, they are nowhere near 50 percent capacity, much less full. Both of these characteristics mitigate to a degree the impact of reduced capacity on the gaming floor. However, they are less helpful for ancillary facilities at Indian casinos, which have increased in importance dramatically over the past 20 years.

Our 2020 survey of Indian casino hotels found a total of 213 Indian casinos with hotels, some with multiple properties, and an average of 259 rooms per Indian casino with a hotel for a total of 55,266 rooms at the end of 2019, as published in the May issue of “Indian Gaming Magazine.” Nearly 94 percent of those properties offer meeting space, nearly one-third have golf courses, nearly one-third have spas, almost one-quarter have waterparks or significant water recreation amenities greater than a simple pool area, roughly 40 percent have arcades, 87 percent have gift shops, over 12 percent have bowling, nearly five percent have movie theaters and over 12 percent have supervised childcare. These figures do not include Indian casinos that have such facilities but do not have hotels. All of these, and many other types of ancillary facilities and amenities will be affected by the change in business volume of their host casinos and by differences in reopening timing and long-term operational changes due to their individual business profiles.

Changes in operating procedures and their impacts on employee productivity and customer satisfaction are far form the only issues the Indian gaming industry will face as it struggles to recover. The general economic downturn, jobs losses, general reductions in tourism, loss of consumer confidence, potential increases in savings rates, potential changes in labor and other costs and other factors referenced in the discussion of the general economic prognosis will affect casinos as well. A particularly disturbing correlation is the fact that COVID-19 most heavily affects precisely the most important customer demographic for Indian casinos, those age 65 and older, many of whom have serious health conditions. This demographic will be the last to have restrictions, or at least recommendations for reduced travel, removed and is the most likely to permanently change behavior due to health concerns. To the extent that the senior demographic is disproportionately affected in the long-term due to actual loss of life, lingering restrictions, changes in personal behavior, economic concerns and other factors, Indian casinos will also be disproportionately affected in their demand base beyond other tourism and customer point-of-sale industries.

Many of the current problems and the early issues surrounding reopening will reduce in severity over time, especially if an effective vaccine can be found that can be administered to all age groups and health conditions. Current steps to alter operations and enact safety protocols are all ad hoc and hurriedly developed and implemented. Clearly a long-term solution to greater spacing is not simply keeping half of the machines on the floor turned off. Ultimately, gaming floors and other areas in casinos will be redesigned to incorporate greater spacing in a manner that is more attractive to the customer, more conducive to efficient operations and ultimately capable of actually enhancing customer and employee experiences rather than hindering them. In the same way, foodservice, lodging, other amenities, player loyalty programs, air handling systems and many other facets will evolve in new ways over time. More specific ways this is likely to occur will be discussed in the Prescription section of this report. Here they are mentioned briefly as part of the considerations into the prognosis of Indian gaming recovery.

For the same reason that casinos are less seriously affected by gaming floor capacity changes, they are also capable of greater flexibility in expanding space to accommodate full demand capacity rather than simply reducing capacity due to physical space limits. In the short-term a cancellation or at least postponement of new construction at Indian casinos is inevitable due to lost income and uncertainty over future economic conditions. However, new construction and renovation is equally certain to experience a period of more rapid growth than would otherwise have occurred once the recovery period is underway in earnest and to do so in two phases. The first phase will be a combination of a resumption of certain key and well supported projects that were postponed due to the crisis but otherwise continue to make sense, along with a significant uptick in internal renovation efforts to turn temporary, unattractive and inefficient spacing changes into permanent, more attractive and more efficient design. The second phase, which will overlap the first to some degree, will involve new expansions of space with new design templates in use to enable the actual capacity of gaming machines and table games, traditional or electronic, to fully capitalize on available demand without distancing constraints. Even at $500 to $1000 per square foot, the revenue produced by a slot machine with typical utilization would pay for the space increase in 24 months, even less in high demand locations.

The speed with which the second phase will occur will depend upon the risk profiles of individual operators and the success of the early ad hoc reopening efforts. Because new construction takes time, the earlier planning for new construction begins, the earlier its benefits can start putting increased profits back into tribal coffers. While the impact of the crisis on gaming revenue and the period of recovery will extend through 2022 in our analysis, as described below, an opening of a major new expansion or renovation by 2023 would require initiating planning still this year. Of course, there is a risk that recovery could take longer or that initial renovation or expansion plans will need to be adjusted as more information becomes available. For that reason, more conservative tribes will likely wait somewhat longer to begin the process. However, we anticipate that some more aggressive tribes will begin the long-range planning process sooner rather than later.

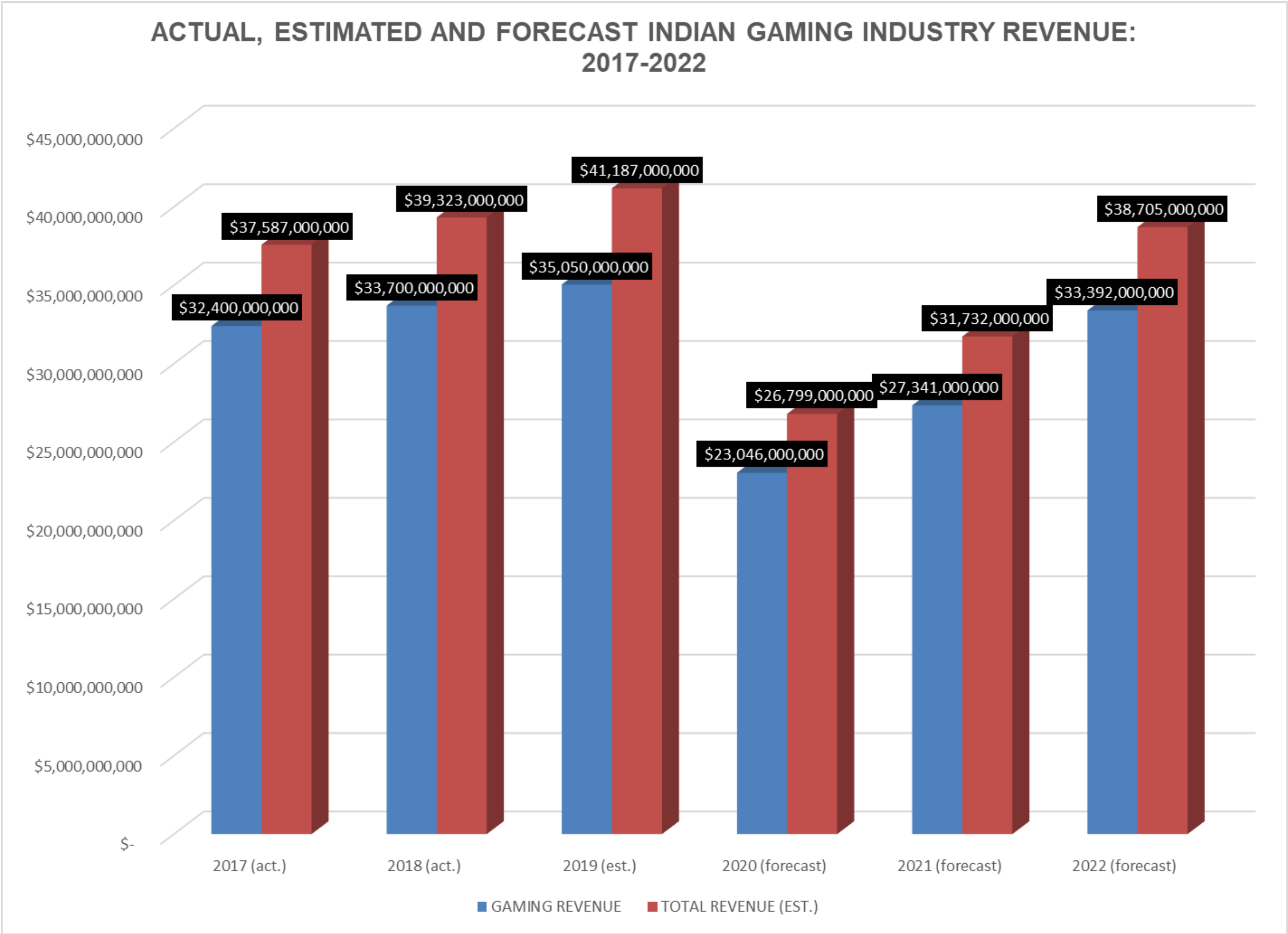
Gaming revenue data from the NIGC for 2019 is not yet available and the NIGC does not publish revenue data for ancillary facilities in the same manner. Based upon our analysis of the industry prior to the pandemic, we have estimated gaming revenue at Indian casinos in 2019 to have equaled $35.05 billion dollars and total revenue, including ancillary facilities to have equaled $41.2 billion.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in gaming revenue of 34.25 percent for 2020 and a decline in ancillary revenue at Indian casinos of 38.85 percent, for an overall decline in total revenue at Indian casinos for 2020 of approximately 34.9 percent. For 2021, we forecast an increase in gaming revenue of 18.6 percent and an increase in total revenue of 18.4 percent as recovery begins, still leaving the industry 22 to 23 percent below estimated 2019 levels. In 2022, substantial recovery is forecast to continue, with gaming revenue up 22.1 percent and total revenue up 22.0 percent from 2021. While this still leaves industry revenue between four and six percent below estimated 2019 levels, it will effectively represent full recovery by the end of 2022. Revenue levels in 2023 are expected to approximate pre-pandemic levels and surpass them on a month-to-month comparison basis by the end of the year. This information is presented in the graph on the following page. Gaming revenue data for 2017 and 2018 are taken from NIGC statistics. All other figures are estimates and forecasts by KlasRobinson.

Tourism, Lodging & Other Leisure Industries

While some tribes have timber, mining, extraction or sufficient land mass for major agriculture, next to gaming, the most important industry sector for most tribes is tourism and other leisure industries. Both nationally and internationally, tribal lands and peoples are known for their fascinating cultures and histories, beautiful vistas and unique attractions. Since long before gaming and even after for tribes without major casinos or those whose casinos can only provide modest enhancements to economic activity, other tourist-oriented businesses have provided critical employment, hard currency and educational opportunities to tell their story and maintain their language and arts.

The tourism and leisure sector as a whole has been hit even more heavily than its gaming subcomponent, with the same closures and travel restrictions, but with longer lead times likely for reopening and an inability to capitalize on high dollar customers in the same way as casinos. There are exceptions for open natural areas where people can easily space themselves and visit under the guise of exercise and fresh air. However, the money-making facets of such attractions have always been the restaurants, gift shops, lodging, guided activities and related ancillary amenities that cannot be operated in the same way as before, or even at all for the time being.


ACTUAL, ESTIMATED AND FORECAST INDIAN GAMING INDUSTRY REVENUE: 2017-2022
$45,000,000,000
$40,000,000,000
$35,000,000,000
$30,000,000,000
$25,000,000,000
$20,000,000,000
$15,000,000,000
$10,000,000,000
$5,000,000,000
$-
$32,400,000,000
$37,587,000,000
$33,700,000,000
$39,323,000,000
$35,050,000,000
$41,187,000,000
$23,046,000,000
$26,799,000,000
$27,341,000,000
$31,732,000,000
$33,392,000,000
$38,705,000,000
2017 (act.)
2018 (act.)
2019 (est.)
2020 (forecast)
2021 (forecast)
2022 (forecast)
GAMING REVENUE
TOTAL REVENUE (EST.)

Foodservice, in particular, has been severely disrupted by closures and restrictions and will continue to be affected even when other sectors are moving back toward some semblance of normalcy. Seating and spacing restrictions and mask requirements dramatically reduce the revenue generating capacity of restaurants and bars. No amount of takeout, menu redesign or pricing adjustments can fully compensate for the loss. Inevitable supply chain disruptions as food service businesses reopen, along with increased labor and operating costs on a percentage of sales basis will continue to affect profitability even with an uptick in sales from partially reopened dining rooms. Even in casinos, foodservice offerings have been significantly reduced.

The other subsector most deeply affected will be concerts and events, likely the last subsector to reopen on even a partial basis. Public events and festivals, whether offered directly by the tribe or by communities in their surrounding area, are being cancelled well into the fall or even until next year. When they do finally return, smaller attendance, greater spacing requirements and reductions in ancillary amenities and profit opportunities are expected until and unless a vaccine or clear and long-term reduction of viral counts to negligible levels becomes widespread. Entertainment is a critical component in the gaming environment and a major driver of festivals that attract major influxes of people and dollars in normal times. Sporting events face the difficulties of transmission amongst contestants as well as amongst fans. At the professional level, financial and public pressure to resume will speed the process. However, at lower levels, tournaments that bring large numbers of families and spectators during all seasons are likely to remain curtailed longer.

Lodging has been doubly affected by reductions in both leisure and business travel. While capacity restrictions are being put in place in hotels as well, loss of demand is the primary problem. Both leisure and business travel will return over time. However, both segments are likely to see changes in behavior patterns, including frequency of travel, types of facilities and amenities demanded, and price sensitivity. The shift toward vacation rentals such as Airbnb, VRBO and the like is expected to intensify once allowed to resume as kitchen facilities and private space separated from larger crowds become key selling points.

Other leisure industry businesses are beginning to adapt and reopen. However, there are significant differences in risk factors and on-going restrictions depending upon the type of business. Bowling, golf, gun clubs, museums, fishing and hunting and the like have more flexibility in adjusting their operating models to create needed social distancing without severely constraining capacity. Arcades, waterparks, movie theaters, amusement parks and similar ventures will have greater difficulty in balancing safety measures with maintaining sufficient capacity to support minimum profitability.

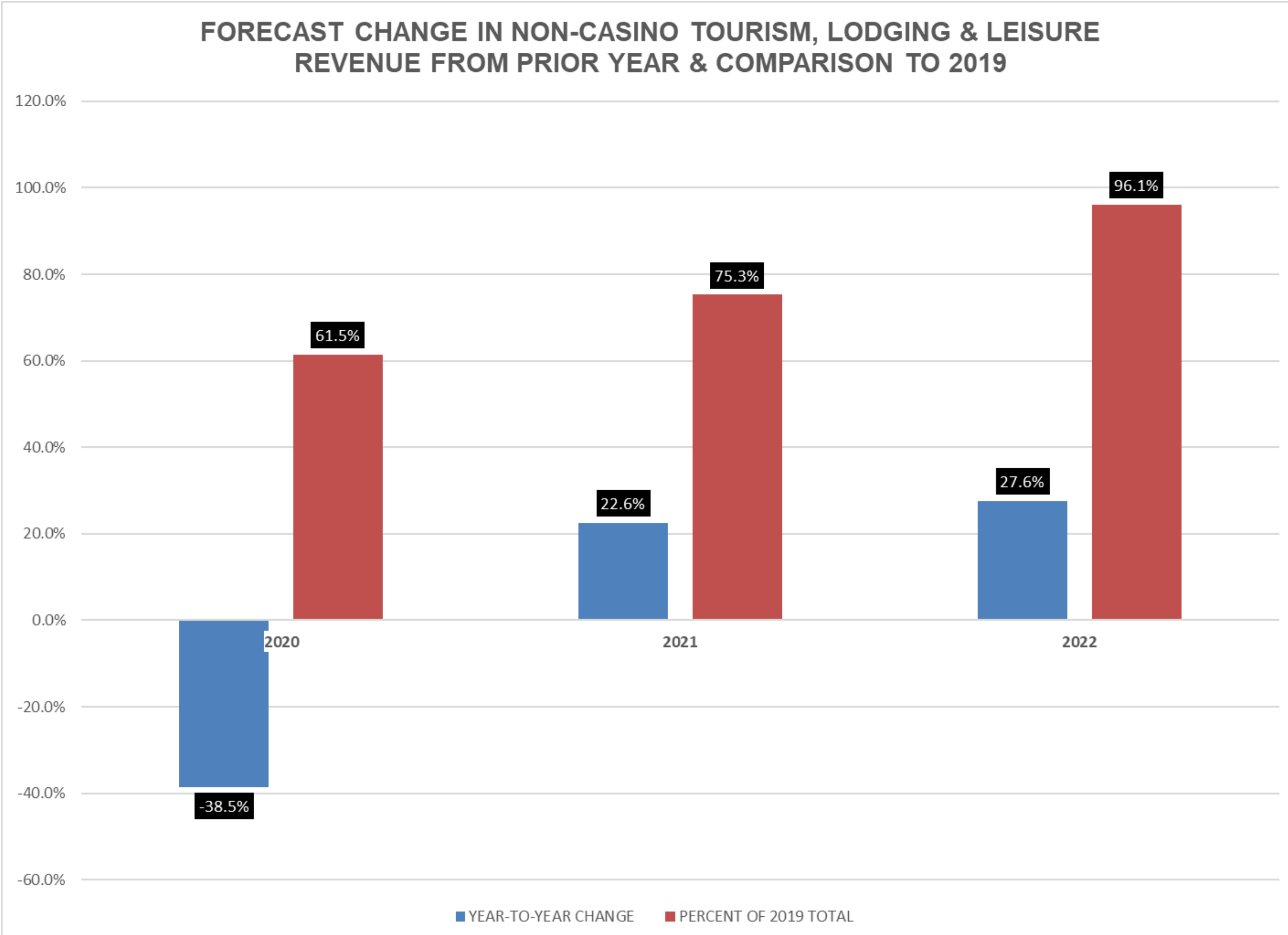
There is much greater variance in the restrictions being placed on tourism and leisure businesses outside of reservations depending upon the geographic location and governing political environment. In the near term, this will give advantages to tourism in those areas removing restrictions rapidly in terms of operating capacity. However, there is a clear link between tourism and business travel with the initial spread of the pandemic within and beyond China, Europe and the United States. It would be unreasonable to expect that the same process will not occur again. As it does, even if certain areas refuse to tighten restrictions, a reputation as a hot spot and declines in staffing and local demand due to illness will be enough to accomplish much the same result. While tribes have the opportunity to chart a different course than their surrounding areas, there are practical limits to how much variation can occur and no way to fully avoid the impacts of the decisions made by non-tribal businesses and governments.

The international component of tourism will be the last component to recover due to continued border restrictions and perceptions of risk. Even when and where travel is allowed, the rules on quarantining will need to be consistent and reciprocal to allow the free flow of international tourism demand. This is likely to take much longer than the reopening and recovery of domestic travel.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal tourism and leisure industry revenue other than casinos of 38.5 percent for 2020. For 2021, we forecast an increase in tribal tourism and leisure revenue other than from casinos of 22.5 percent from 2020 levels as recovery begins, still leaving the industry nearly 25 percent below estimated 2019 levels. In 2022, substantial recovery is forecast to continue, with revenue up 27.6 percent from 2021. While this still leaves industry revenue nearly four percent below estimated 2019 levels, it will effectively represent full recovery by the end of 2022. Revenue levels in 2023 are expected to approximate pre-pandemic levels and surpass them on a month-to-month comparison basis by the end of the year. This information is presented in the graph on the following page.

<u>Agriculture/Forestry/Fishing/Hunting</u>

According to the 2017 version of the Census of Agriculture, which is conducted every five years, the total market value of all products sold by AIAN producers equaled $3.5 billion, as reported by the University of Arkansas. The number of AIAN-owned farms increased by seven percent from 2012. The total value of livestock, poultry and related products were up 15 percent over the five-year period, with the value of crops, and greenhouse/nursery products up 1.8 percent. Although farming, as well as forestry and hunting/fishing which are also part of the agricultural sector, is an important source of income to tribal economies and individual members throughout Indian country, a majority of AIAN producers, 58 percent, are located in just three states, Arizona, New Mexico and Oklahoma.


FORECAST CHANGE IN NON-CASINO TOURISM, LODGING & LEISURE REVENUE FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
-40.0%
-60.0%
61.5%
-38.5%
22.6%
75.3%
27.6%
96.1%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

The impacts of the pandemic and mitigation efforts on agriculture have been unique due to the structure of the industry itself. While the romanticized versions of the family farm or ranch still exist, the vast majority of the industry is dominated by factory farming and even more heavily dominated by large industrial processors and distributors. At the industrial level, production, processing and distribution have become highly consolidated and specialized, with output specifically tailored to different end users. Some growers, processors and distributors cater primarily or even solely to the foodservice industry. Their products are grown and packaged to meet the needs of that sector. Others are targeted specifically toward the grocery and other off-sale markets, which have very different grading and packaging requirements. For example, the foodservice industry buys liquid egg product in bulk so they do not literally have to break some eggs to make their omelets. Grocers need eggs packaged in cartons and graded. With producers, processors and distributors focused only on one or the other, the massive shift from dining-out to dining-in left some with nowhere to sell their product and others overwhelmed with demand. The same has happened with dairy/cheese, potatoes and many other products.

The result is the disturbing juxtaposition of empty grocery shelves on one hand with farmers discarding raw milk, euthanizing animals and experiencing crushing losses even though the same number of people still need to eat. The imbalances go beyond a lack of production and distribution flexibility. The actual eating and personal habits of people when they are out to dinner, in the office or traveling vary considerably from their habits at home. This has added to the imbalances in the system. Direct problems caused by closures of processors due to viral spikes have been well publicized. When processing is heavily concentrated in a limited number of very large facilities, the effects of a single closure a magnified. While this has long been a factor in gas prices, it is a new experience for agriculture.

Eventually, the consumption patterns will shift back as the foodservice industry is allowed to reopen. However, it will be a long time before foodservice establishments have anywhere near the need for their specialized forms of products that they had in the past. First due to ongoing restrictions and later due to lingering changes in customer habits, the shift in balance between at home and away from home food and beverage consumption will take much longer to approximate pre-pandemic patterns than the general economic recovery.

In answer to the disruptions seen so far and the lingering effects that are expected, all facets of the agricultural industry are likely to realign their output and target markets to at least some degree. While catering to a wider variety of customers, markets and uses is less efficient and correspondingly less profitable, it is far more robust and flexible. We expect the lessons being learned in the current crisis to carry a lasting effect. We do not expect a complete overhaul of the system and abandonment of the prior specialization, but substantive changes and diversification at the corporate level are likely.

For tribal agriculture, the new post-pandemic environment is likely to carry new opportunities. With interest by both grocers and foodservice operations in diversifying and localizing their supplier base, tailored growing and potential development of smaller processing operations by tribal agricultural ventures and individual members should generate greater interest and have greater demand potential. While such businesses cannot compete on price with major factory farms and processors, the end user is likely to be willing to pay a premium for flexibility and local access, even more so than in the past. Given the strain the pandemic has placed on global trade and international relations, opportunities may develop for replacement of foreign sources with new local growers and processors, even at a higher cost per unit. Unfortunately, the same factors will reduce export demand for U.S. agricultural products. However, this should not be as great of an issue for tribal agriculture as it is for others.

Beyond farming and ranching, other segments of the sector such as forestry products and hunting and fishing are also being impacted by the pandemic and mitigation efforts. Hunting and fishing are expected to experience a new growth in popularity as they become more than just a hobby, but also a hedge to reliable access to protein. Already there has been a marked increase in gun sales under the pandemic. While this is attributable in part to safety fears, increased interest in shooting and hunting is inevitable. Timber, on the other hand is expected to take a lagged hit from the effects of the crisis on construction. Construction naturally lags in a sudden crisis, with momentum sustaining activity for a period of time and then returning demand taking longer to spur new construction spending than spending in other areas. An anticipated increase in at-home projects, including renovations, expansions and new in-home recreational additions, will help reduce the impact on some timber products. However, a lagged decline followed by a lagged recovery is probable.

Other specialized agriculture products, such as cotton and other fibers for clothing, wood pulp for paper and grain for ethanol, amongst others, have all experienced declines in demand or shifts in end use needs that affect production targets and specifications. Of these, ethanol is particularly vulnerable due to the massive decline in fuel needs that will be discussed further later in this section. Producers, processors and distributors focused in these areas are likely to experience more severe impacts than the overall average for the sector as a whole.

Because tribal agriculture is more fragmented, with fewer large-scale factory farm and processing ventures and more individual or smaller-scale operators, some of the effects seen at the industrial agricultural scale will be less severe for tribes and their members. The average AIAN-owned farm in 2017 produced only $58,250 worth of goods. However, some subsectors of the agriculture industry are so consolidated that it is impossible to avoid dealings with the large players. In the same way, even as tribes explore new ventures and recover from the pandemic in their existing ones, they will have to compete with the large industrial players.

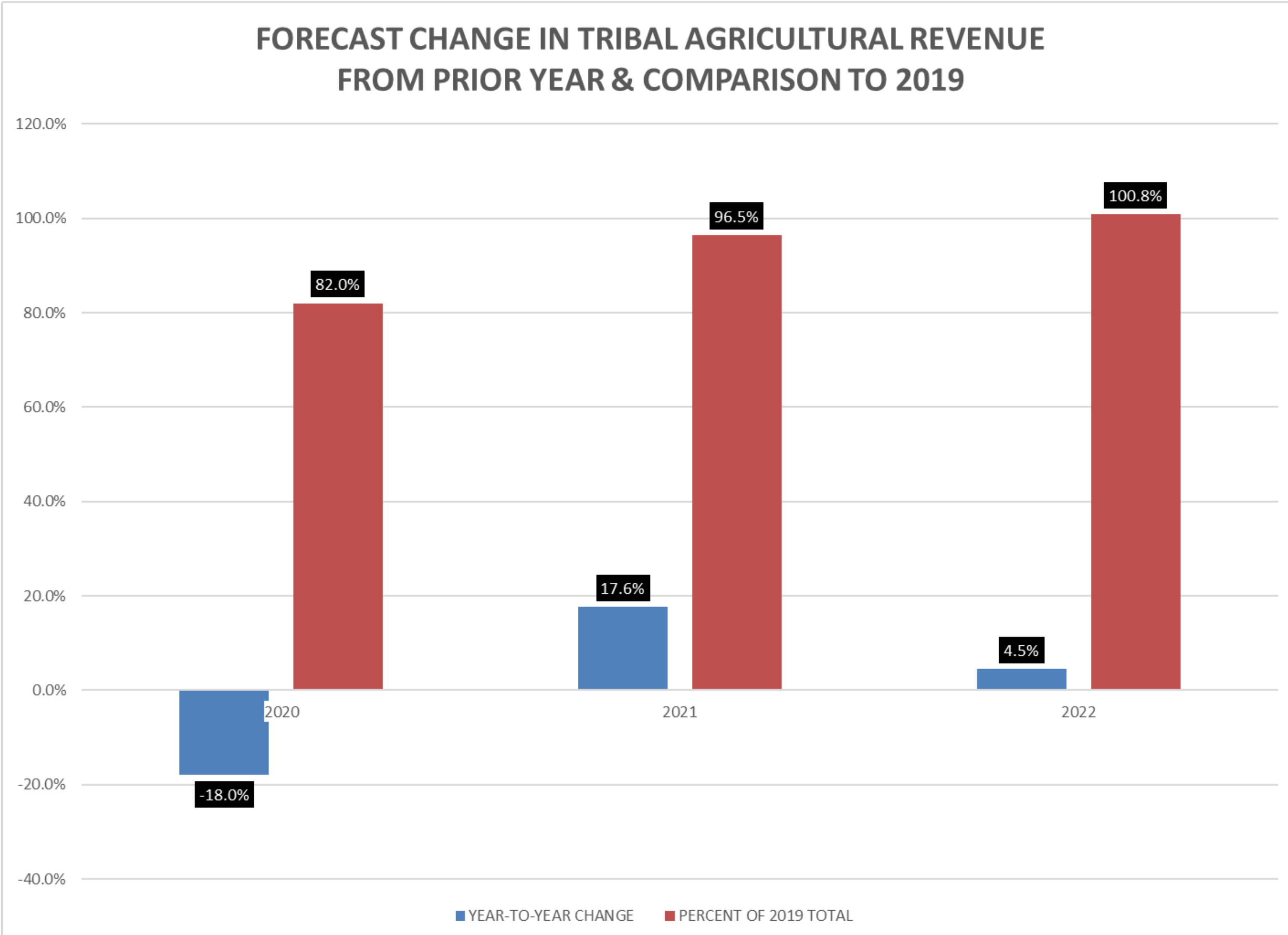
Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal agricultural revenue of 18.0 percent for 2020. For 2021, we forecast an increase in tribal agricultural revenue of 17.6 percent from 2020 levels as recovery begins, still leaving the industry 3.5 percent below estimated 2019 levels. In 2022, full recovery is forecast to occur, with revenue up 4.5 percent from 2021. Total tribal agricultural revenue in 2022 is forecast to exceed 2019 levels by slightly less than one percent. This information is presented in the graph on the following page.

Mining & Extraction

The oil and gas extraction side of the sector has been devastated by plummeting demand coupled with an extraordinary drop in prices. For a brief period, oil futures actually traded at negative prices, meaning traders were willing to pay someone to take oil off their hands to make room for new oil still being pumped. Unlike milk or eggs, they cannot simply flush it down the drain. While that occurrence was short-lived, prices continue to be far below sustainable levels for producers. Intensive demand declines due to the pandemic and mitigation efforts were certainly an instigating factor, but not the only cause. A major price war between Russia and Saudi Arabia further exacerbated the problem. On a long-term basis, new production agreements between OPEC and other oil producing countries should alleviate that aspect. However, the demand decline will continue to weigh on prices and volume for much longer.

Within the U.S., as well as Canada, the greatest impact from the collapse in the oil markets has been the disruption to the shale-oil segment. The U.S. rode advances in drilling and extraction technology that made shale-oil profitable to new production highs and massive new development in oil producing areas. Those, in turn, spurred significant new employment, population growth and household income growth in those areas while boosting tax revenues for the states. Tribes in the same regions benefited from the boom, some directly through extraction of their own reserves, and many other indirectly from spinoff demand.

Unfortunately, the price and demand collapse has destroyed the economic model that supported profitable shale-oil extraction. While the industry will not disappear, it will be severely impacted for a long time. A secondary result is the likely shift in natural gas production and pricing, an ancillary product of shale-oil extraction that became so plentiful that it was burned off in many cases, but also sold for much lower than normal prices to utilities. In reality, a boom and bust cycle is nothing new for oil extraction, or for any mining or extraction business. Fields and veins are discovered, exploited to the maximum degree profitable and then abandoned as they become more expensive and as new areas are found. What is more unusual in this cycle is the speed with which it occurred and the fact that it was not a foreseeable response to tapping an area out but an unexpected drop in demand and pricing below profitable levels.



FORECAST CHANGE IN TRIBAL AGRICULTURAL REVENUE
FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
-40.0%
2020
2021
2022
-18.0%
82.0%
17.6%
96.5%
4.5%
100.8%
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

On the mining side of the sector, demand is slower to respond to the pandemic and mitigation efforts but by no means immune. Construction, manufacturing and other users of mined products have already been slowed by demand reduction for their end products and are likely to be slowed even further over the next six to twelve months as the lagged effects of the economic downturn fully impact their business models. As manufacturers reduce their demand for mined products, the mining sector will slow even further than it has to date.

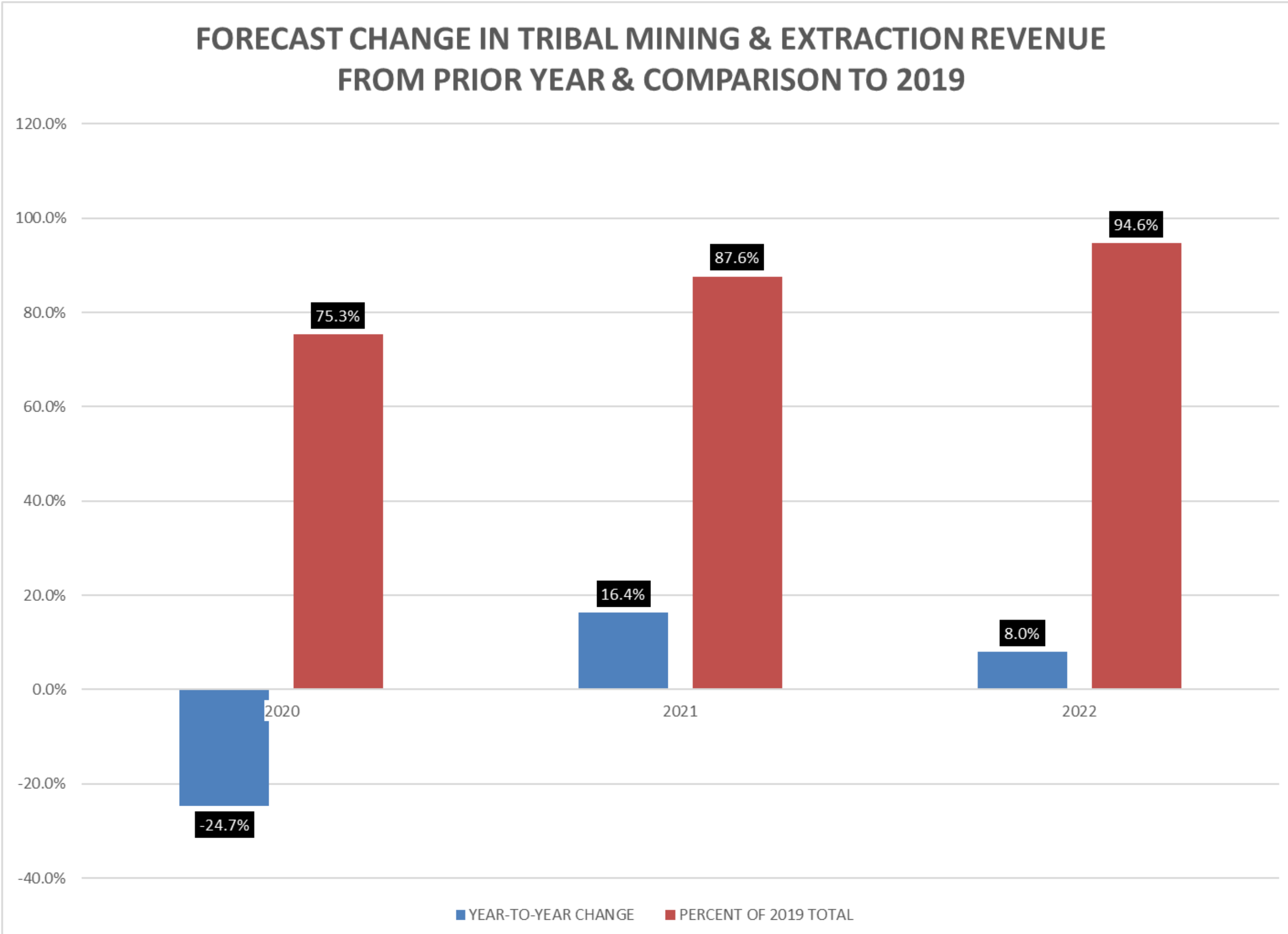
The lag works both ways. Even when demand for houses, buildings, cars and durable goods begins to return, it will take longer for the mining sector to reap the benefits. Government efforts to stimulate economic activity and loosen credit should help mitigate the impact, but only to a degree and only if the stimuli are applied either continuously or at least again when markets are fully reestablished. The recent stimulus efforts will not be sufficient to boost mining or extraction prospects next year or in 2022. Additional efforts will be required, as will be true across many sectors.

The importance of the mining and extraction sector is not spread evenly across Indian country. For some tribes it is a critical component of their economies, whether directly or indirectly. For others, it is all but irrelevant. For tribes that are more dependent on the mining and extraction sector, their own economies will suffer doubly, both from the direct loss of business and from the impact of lost demand for other sectors due to lost employment and earnings in their area.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal mining and extraction revenue of 24.7 percent for 2020. For 2021, we forecast an increase in tribal mining and extraction revenue of 16.4 percent from 2020 levels as recovery begins, still leaving the industry 12.4 percent below estimated 2019 levels. In 2022, substantial recovery is forecast to continue, with revenue up 8.0 percent from 2021. While this still leaves industry revenue 5.4 percent below estimated 2019 levels, it will effectively represent full recovery by the end of 2022. Revenue levels in 2023 are expected to approximate pre-pandemic levels and surpass them on a month-to-month comparison basis by the end of the year. This information is presented in the graph on the following page.

Construction

Construction typically lags in any major downturn due to the lead time necessary to launch any major construction project, even single-family homes, which are typically developed in large clusters requiring various approvals and presales. Once a project is under construction, it is uncommon, although not unheard of, for construction to be suspended or abandoned. Hence momentum carries the sector for anywhere from six to twelve months even as demand falls. On the back end, planning and development efforts typically do not begin until evidence of demand recovery is already present. But construction itself may take months or years from the beginning of planning.


FORECAST CHANGE IN TRIBAL MINING & EXTRACTION REVENUE
FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
-40.0%
75.3%
87.6%
94.6%
16.4%
8.0%
-24.7%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

Over the past ten years, construction has shown the greatest average compound annual growth of any sector, fueled by both private and public demand. On the private side, growth in demand for multi-family housing, office space, travel and leisure industry projects, and supporting development for other industry sectors has generated significant activity. On the public side, transportation infrastructure, arenas and stadiums, new government buildings and even civic beautification and cultural development have kept many construction workers busy for years at a time. Even new retail construction as occurred despite problems with brick and mortar retail.

One example is the impact of Indian gaming on construction. According to the recent economic impact study of Indian gaming by Dupris Consulting Group for the National Indian Gaming Association, the Indian gaming industry spent over $4.1 billion on capital projects in 2019 alone. Our own prior analysis, published in "Indian Gaming Magazine" in March of 2019 anticipated $7.0 billion in new construction at Indian gaming facilities from 2019 through 2021, a prediction that was being fulfilled until the COVID-19 crash. As large as these numbers are, they are but a small piece of a sector that totaled nearly $1.7 trillion in 2019, up $53.5 billion from the year before according to the Bureau of Economic Analysis.

The success of the construction sector is particularly important to the economic well-being of many individual tribal members. While there are several large construction businesses owned by tribes and employing many people, the construction sector is among the most significant sectors for non-employer establishments, that is, individual contractors, sole proprietors and master technicians and craftsmen. Within Indian country, only the catchall sector "other services," has more non-employer establishments than the construction sector and only "F.I.R.E." (finance/insurance/real estate) approaches the construction sector in terms of percentage of total sector jobs filled by non-employer establishments. Thus, reverses in the construction sector have a particular impact on many individual tribal members.

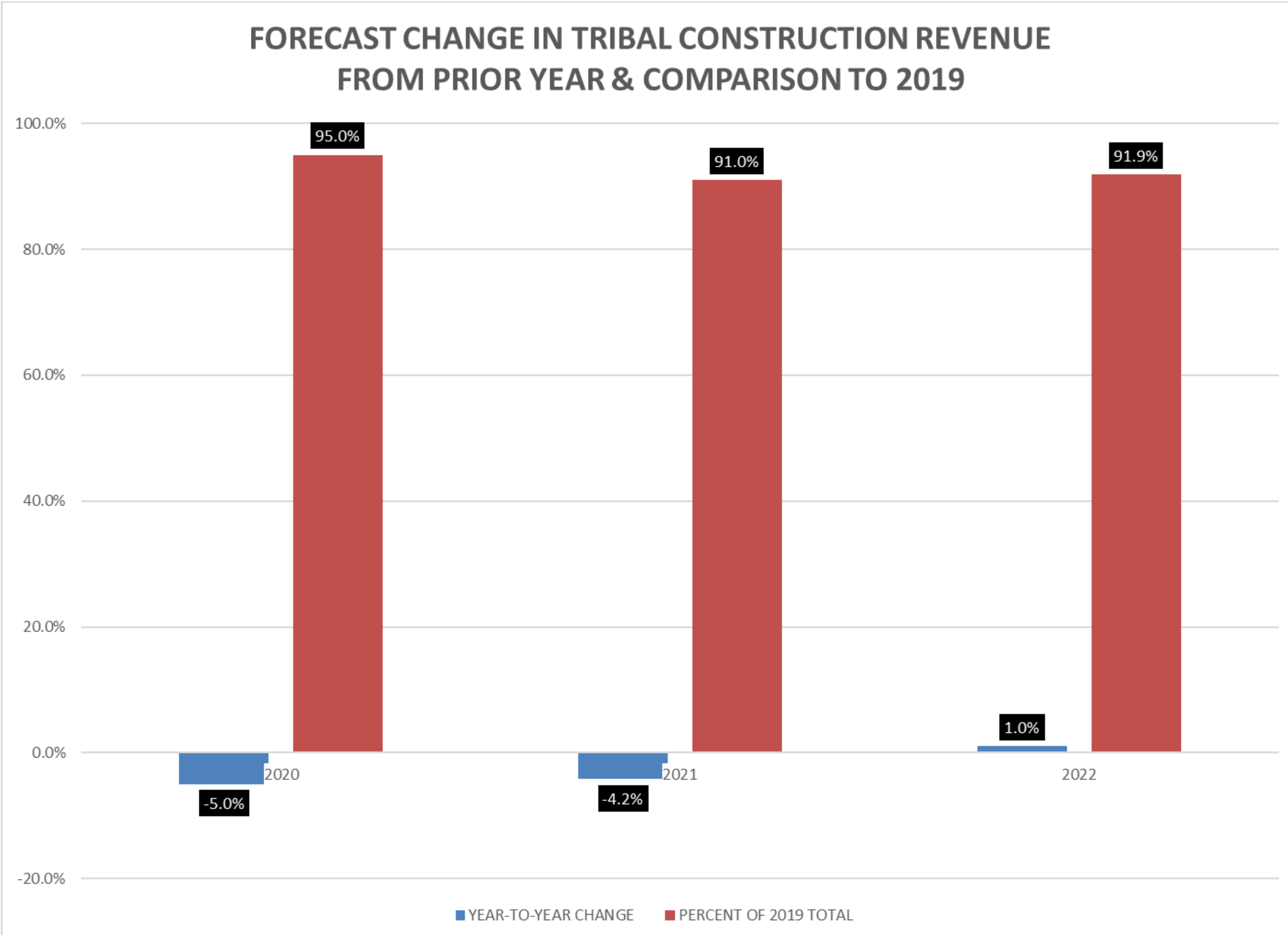
The pandemic and associated mitigation efforts are already having an impact on the sector. Any project that was not already in the ground is most likely on hold, with many likely to be cancelled. Even some that are already in construction may be suspended or at best shelled out and then left unfurnished and unopened until conditions change. Projects put on hold that do not end up being cancelled outright will most likely be redesigned and value engineered to reduce costs and fit new operating models and needs. As the projects already too far along to warrant suspension or cancellation are completed, a process that in some cases could last well into next year, there will be an even greater impact on construction activity.

When activity resumes, the types of projects and scale of projects are also likely to change. Commercial and multi-family housing development is going to undergo serious reevaluation in light of the experiences of the current crisis. Lodging and other tourism and leisure development is likely to be even more heavily affected by long-term changes in demand and design needs. Government spending on infrastructure and its own facilities will most likely be artificially increased as a stimulus measure in the short-term. However, in the long-term, squeezed budgets and changes in usage patterns in big ticket items like airports and stadiums will ultimately put pressure on government sponsored construction.

Ironically, the current crisis may actually spawn some construction activity as the initial shock wears off, particularly in areas of interior design and renovation. Adjustments to work and public spaces needed to increase social distancing for public health will eventually require more practical and permanent solutions than the makeshift efforts currently in place, such as tape on the floor, jury-rigged plastic shields and mannequins in empty seats. For some businesses, gaming in particular being one, with segments of manufacturing also, there is likely to be a surge in physical expansion to increase floor space to allow the same level of demand to be served or product to be produced under the new operating patterns as was previously done in tighter spaces. While such activities will help soften the blow, they will not fully compensate for changes in the demand for new development that are expected to occur due both to lack of demand and permanent changes in operating environments.

Although tribal governments have the ability to more aggressively affect their own construction sectors through direct action, tribes will be unable to completely avoid the impacts of the economic downturn in the construction sector. Even if tribal construction businesses or tribal members with their own construction ventures derive the bulk of their demand from projects of their own tribe (most do not), their tribes may not be able to support the same level of activity as seen in recent years for some time. Nevertheless, the magnitude of the impact on tribal construction is likely to be less severe than for non-tribal construction businesses, even if the direction and patterns will be similar.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal construction revenue of 5.0 percent for 2020. For 2021, we forecast further decrease in tribal construction revenue of 4.2 percent from 2020 levels as the lagged effects continue to build, leaving the industry 9.0 percent below estimated 2019 levels. In 2022, limited recovery is forecast to begin, with revenue up 1.0 percent from 2021. This will still leave the sector 8.1 percent below its 2019 level. Full recovery is likely to take an additional two to four years beyond 2022. This information is presented in the graph on the following page.


FORECAST CHANGE IN TRIBAL CONSTRUCTION REVENUE
FROM PRIOR YEAR & COMPARISON TO 2019
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
95.0%
91.0%
91.9%
1.0%
-5.0%
-4.2%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

Manufacturing

Manufacturing is the most diverse of any industry sector, encompassing everything from wind turbine blades to automobiles to toasters to screwdrivers to steaks to tomato sauce and much more. While many products go through the distribution chain and ultimately into the hands of individual consumers, a major share of manufacturing is never seen on a store shelf or in a home. Instead it supplies other manufacturers and service providers with the tools and equipment they need to complete and monitor their own work. Because its uses are so varied and widespread, manufacturing is the second largest sector in the U.S. economy, trailing only F.I.R.E. in total output.

While manufacturing is not as significant within tribal economies, it still remains an important source of employment on reservations, accounting for nearly five percent of reservation jobs, according to the 2017 study by the Center of Indian Country Development previously discussed. Tribal manufacturing does not span the range of possible product lines in the country as a whole to the same degree. However, it has representation in each of the major subsectors, including consumer goods, food processing, defense and tech manufacturing, apparel and other textiles and many other products. The manufacturing sector in Indian country has grown larger and more sophisticated in the last 25 years, fueled in part by investible income from the gaming sector, transforming from a heavier emphasis on cottage industries and niche craftsmanship to larger and more labor-intensive facilities with national and global customer lists.

Because of the variety in products and markets encompassed in the manufacturing sector, the effects of the pandemic and associated mitigation efforts are more varied. Some subsectors have experienced major upswings in demand, such as sanitation and PPE supplies. Other subsectors have experienced both the good and the bad, such as food processing, where manufacturers of grocery products have seen surges in demand even as those focused on the foodservice sector have seen demand vanish. Because of the proximity of workers on assembly lines, many manufacturers have been forced to close operations for a period of time to stave off outbreaks and clean their facilities, meat processors being the most well publicized. Other have suspended or reduced production primarily due to losses in end-user demand.

While the variety of experiences between different subsectors protects the broader sector as a whole from the more severe reversals seen in some other industries, it will also mean a great deal of volatility will continue for longer than in other sectors. The overall sector performance impacts will be less representative of the likely impact on individual manufacturers than for other industries, with many continuing to struggle to a much greater degree and others wondering what all of the negative news is about.

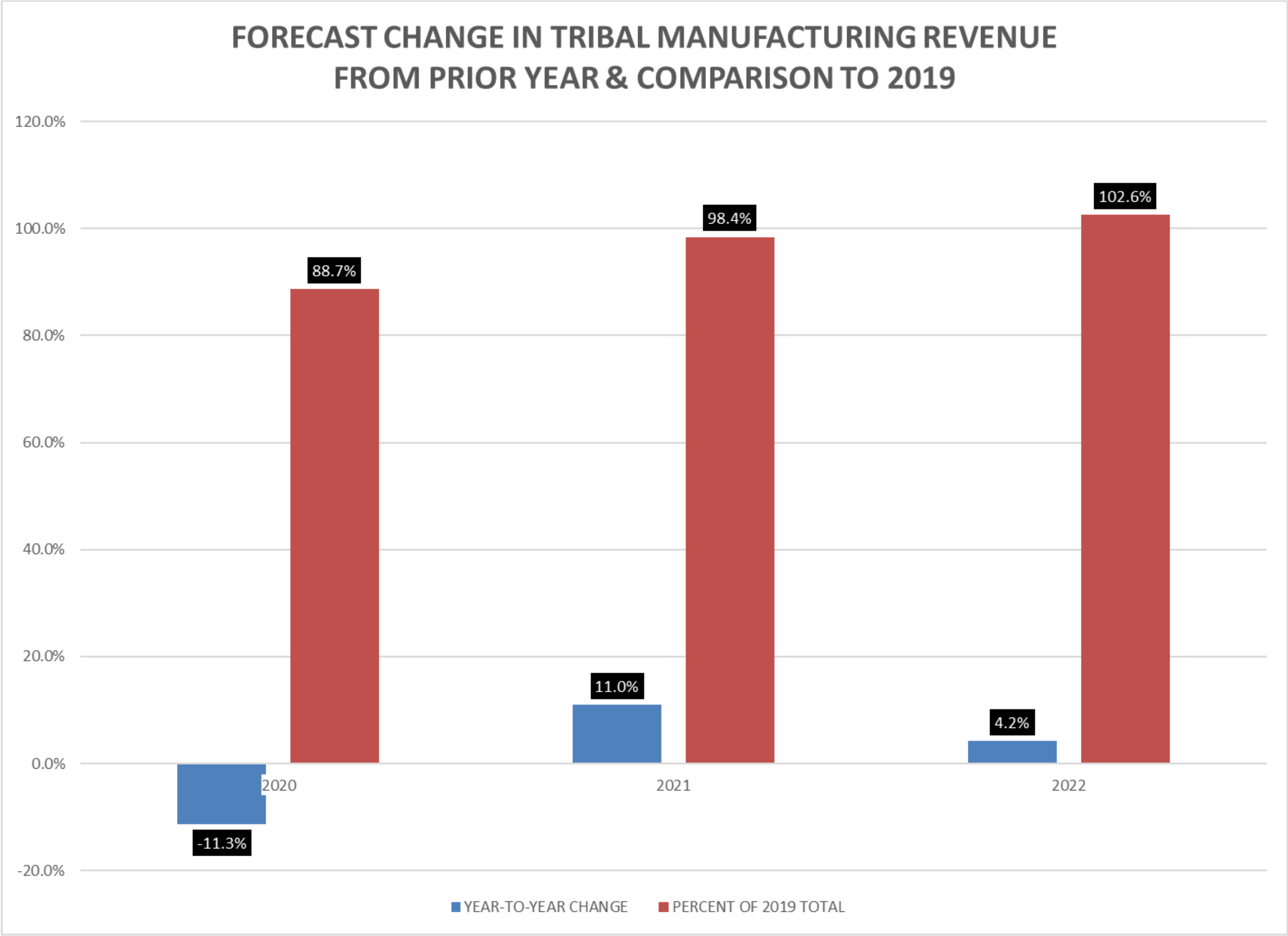
In general terms, subsectors and manufacturers such as textiles, petroleum and chemical products (although not cleaners), motor vehicles (although possibly not RV's), other transportation equipment, some paper products, wood products and some other metal products and appliance operations will see more severe and longer lasting downturns. Conversely, food processors (for at home consumption), sanitation products, PPE manufacturers, computer and electronics manufacturers, home recreational equipment manufacturers, sporting goods catering to personal rather than team sports, and manufacturers of other specialty personal care products used in the home will see less severe and shorter downturns or even surges in demand that eventually move back toward more typical levels. Manufacturers catering primarily to government contracts will likely see periodic short-term surges in demand from stimulus and mitigation efforts within a broader and longer context of reduced demand due to government cutbacks once the immediate crisis has passed.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal manufacturing revenue of 11.3 percent for 2020. For 2021, we forecast an increase in tribal manufacturing revenue of 11.0 percent from 2020 levels as recovery begins, still leaving the industry 1.6 percent below estimated 2019 levels. In 2022, full recovery with the beginnings of new growth are forecast to occur, with revenue up 4.2 percent from 2021. Total tribal manufacturing revenue in 2022 is forecast to exceed 2019 levels by 2.6 percent. This information is presented in the graph on the following page.

Wholesale Trade

The wholesale trade sector is unique amongst industrial sectors in its direct connection to and reliance on the trends of two other sectors, manufacturing and retail trade. Because wholesale businesses are the definition of "middle men'" they do not so much generate their own sector trends as follow those of the producers they represent and the retailers they supply. When either or both of those sectors are off, wholesale trade will naturally be down with them. When either or both do well, wholesale trade moves in that direction as well. This is not to say that wholesalers have no control over their fates or that their decisions do not have impacts on the broader economy in their own right. However, no other sector, with the possible exception of agriculture, is as heavily dependent on the health of businesses outside of itself.

With its position in the middle, wholesale trade has seen some of the same patterns as manufacturing, already discussed and as retail trade, which will be discussed next. That includes sudden shifts in demand in both directions, shortages on the one hand and excess supply to the point of destruction of unmovable product on the other. Significant winners and losers appear in this sector as in manufacturing and in the same product lines.


FORECAST CHANGE IN TRIBAL MANUFACTURING REVENUE
FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
88.7%
98.4%
102.6%
-11.3%
11.0%
4.2%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

The biggest long-term disruption in the wholesale trade sector, one that will remain even after demand and production rebalance to the new economic realities, will be a shift by both manufacturers and retailers toward greater diversity in their supply chain. Manufacturers are more likely to seek multiple outlets for their products as a hedge against being locked into a single wholesaler to prevent the kind of all or nothing situations seen in the current crisis. Retailers are likely to do the same for the same reasons. They will want to increase the likelihood that they will continue to have product to sell even if there is a general shortage and they can only do that by diversifying their base and/or increasing inventory.

The same efficiencies that led farmers and food processors to specialize in particular market niches and single source purchasers to enhance profitability in stable times benefitted wholesalers as well. Loss of those efficiencies will reduce per unit profitability going forward, but open up wholesalers to broader market opportunities that will provide a more robust and flexible operating environment in the face of future shocks from whatever source they may come. While we actually consider such a change good for the industry, it will come with winners and losers. Some wholesalers will be unable to adapt to the more fluid selling and supply environment and the shift in operating margins. Those that can be more nimble will thrive. If, as is certainly possible, another major shock such as a pandemic or other world or nationwide crisis does not appear for a couple of decades or more, the pattern will naturally shift back. However, for the remainder of this decade at least, the more diversified supply and demand patterns are expected to predominate.

The wholesale sector has not been a major component of tribal economies historically. However, it was emerging as a growing sector in the past 10 years as large gaming tribes, in particular, used their increased capital, internal product needs and new supply chain expertise to move into wholesaling along with the more traditional retail sector. As newer entrants, tribal wholesale ventures would typically be at risk from an unstable sector and shifting supply and demand patterns. Yet the same drivers that increased wholesaling activity in tribal lands, especially capital access and built in demand, should protect this nascent sector in Indian country. They may also benefit from not having established operating patterns over decades that can be hard to revise.

One other aspect of wholesale trade that is both cause for concern and unclear in outcome is international trade relations. Already disrupted by more confrontational approaches to trade negotiations and international relations in general, international trade is under greater pressure as countries naturally look inward to protect their own people and, in some cases, cast blame for political reasons to outside forces rather than internal failures. It remains unclear at present the degree to which this will dampen international trade in the long term, given the amount of investment and employment tied to cross-border trade before the current crisis.

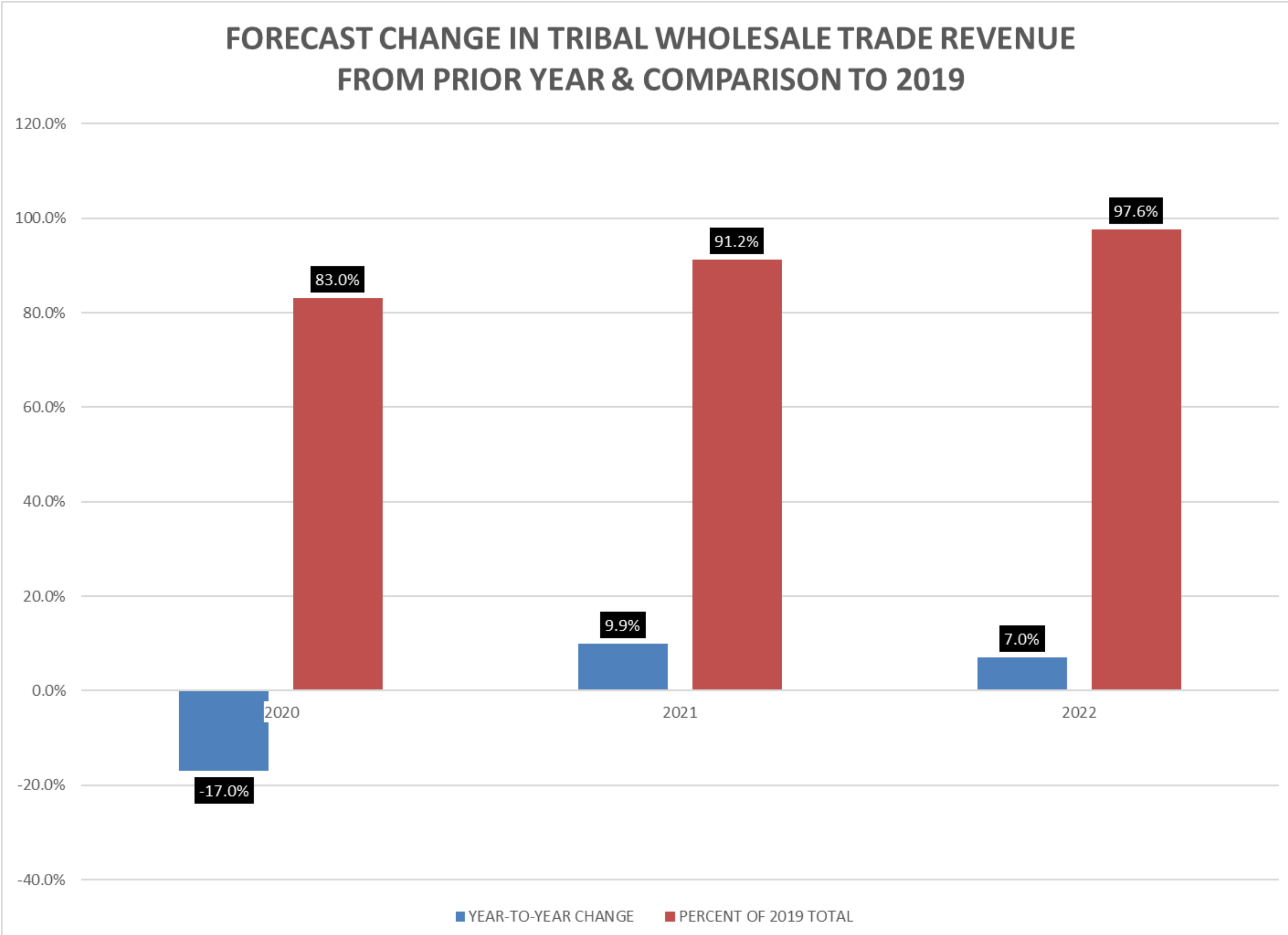
While tribal wholesalers may be negatively affected by international trade disruptions, they are generally less exposed than non-tribal wholesalers. Indeed, if a more protectionist pattern takes hold, tribal wholesalers may even find opportunities to become new sources of supply and new outlets for production for retailers and manufacturers no longer able to generate the same level of international profits.

Internal characteristics notwithstanding, the wholesale trade sector will be most heavily affected by the manufacturing and retail trade sectors, showing patterns comparable to both, or perhaps mor accurately, averaged between them. Over the past 10 years, wholesale trade actually grew faster than manufacturing or retailing according to the Bureau of Economic Analysis. This was due to a combination of international trade growth and increased reliance on outsourced supply chain activities rather than in-house purchasing by retailers. We expect that pattern to shift somewhat for the reasons already discussed.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal wholesale trade revenue of 17.0 percent for 2020. For 2021, we forecast an increase in tribal wholesale trade revenue of 9.9 percent from 2020 levels as recovery begins, still leaving the industry 8.8 percent below estimated 2019 levels. In 2022, substantial recovery is forecast to continue, with revenue up 7.0 percent from 2021. While this still leaves industry revenue 2.4 percent below estimated 2019 levels, it will effectively represent full recovery by the end of 2022. Revenue levels in 2023 are expected to approximate pre-pandemic levels and surpass them on a month-to-month comparison basis by the end of the year. This information is presented in the graph on the following page.

Retail Trade

Under normal circumstances, a variety of factors drive retail trade, including consumer confidence, availability of credit, employment and earnings, supply chains, inflation, the stock market and numerous other factors. These are not normal circumstances. Although the other factors have not disappeared, the primary drivers of retail trade at present, as with the foodservice industry, are the restrictions put in place by government to mitigate the spread of the coronavirus. As already mentioned, the dramatic decline in retail trade was not driven, at least initially, by a loss of demand, but rather by a loss of opportunity. Even if consumers wanted to purchase products, there was nowhere to go to get them and even if there was, the products may very well not be in stock. While online orders surged, the delivery chain and supply chain could not keep up in many cases and could certainly not compensate fully for the closing of brick and mortar stores.


FORECAST CHANGE IN TRIBAL WHOLESALE TRADE REVENUE
FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
-40.0%
83.0%
91.2%
97.6%
-17.0%
9.9%
7.0%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

Also like the foodservice industry, many of those closures are likely to become permanent and for some of the same reasons. Retail, like foodservice, is generally a low margin business. Many retailers, both small individual operators and large chains, have significant capital tied up in inventory and advance purchase contracts, not to mention space leases, that cannot be shed completely when their operations are forced to close for extended periods. With debt financing much of the retail industry, after years of steady growth led to expectations of continued consumer spending increases, the necessary short-term disruptions to fight the pandemic are likely to lead to permanent losses.

The industry was already under pressure, despite steady consumer spending growth, due to the shift to online versus in-store retailing. As with any paradigm shift, winners and losers emerge even if the overall industry trend is positive. That is why so many retail chains and shopping malls made headlines with bankruptcy filings even before the pandemic at the same time that overall retail industry output grew at an average compound annual rate of 4.5 percent from 2010 through 2019. The pandemic mitigation efforts have accelerated the shakeout.

Even as restrictions are being gradually lifted, the disruptions to retail will continue at significant levels throughout the remainder of this year and into next, especially if additional waves of the pandemic appear as expected. Back-to-school shopping and the Christmas shopping season are still facing serious potential for disruption. Capacity limits and PPE requirements will have comparable effects on retail performance to those seen in the tourism industry, if not, perhaps, to the same magnitude. The increased shift to online shopping will almost certainly extend beyond the removal of governmental restrictions, whenever that occurs, due to the combination of increased familiarity, loss of brick and mortar retailers and continued supply chain instability.

This does not mean the death of brick and mortar retail or of buildings constructed to house it. It does, however, mean a major shift in the percentages of total demand generated by in-person shopping versus online ordering. More importantly, whether online or in-person, the effects of the current crisis will continue to weigh the total demand down for some time. The stimulus efforts to date have done little to support retail trade due to the restrictions put in place to fight the virus. By the time those restrictions have been substantially removed (as opposed to the limited easing currently occurring) the stimulus payments will be long gone, used primarily to support basic needs and expenses. Additional stimulus will be necessary to boost consumer spending at that time to prevent even greater and longer-term damage. Otherwise, lingering pressure from lost wages, overdue rent or mortgage payments, uncertainty about the future and changes in behavior patterns will continue to hamper the sector.

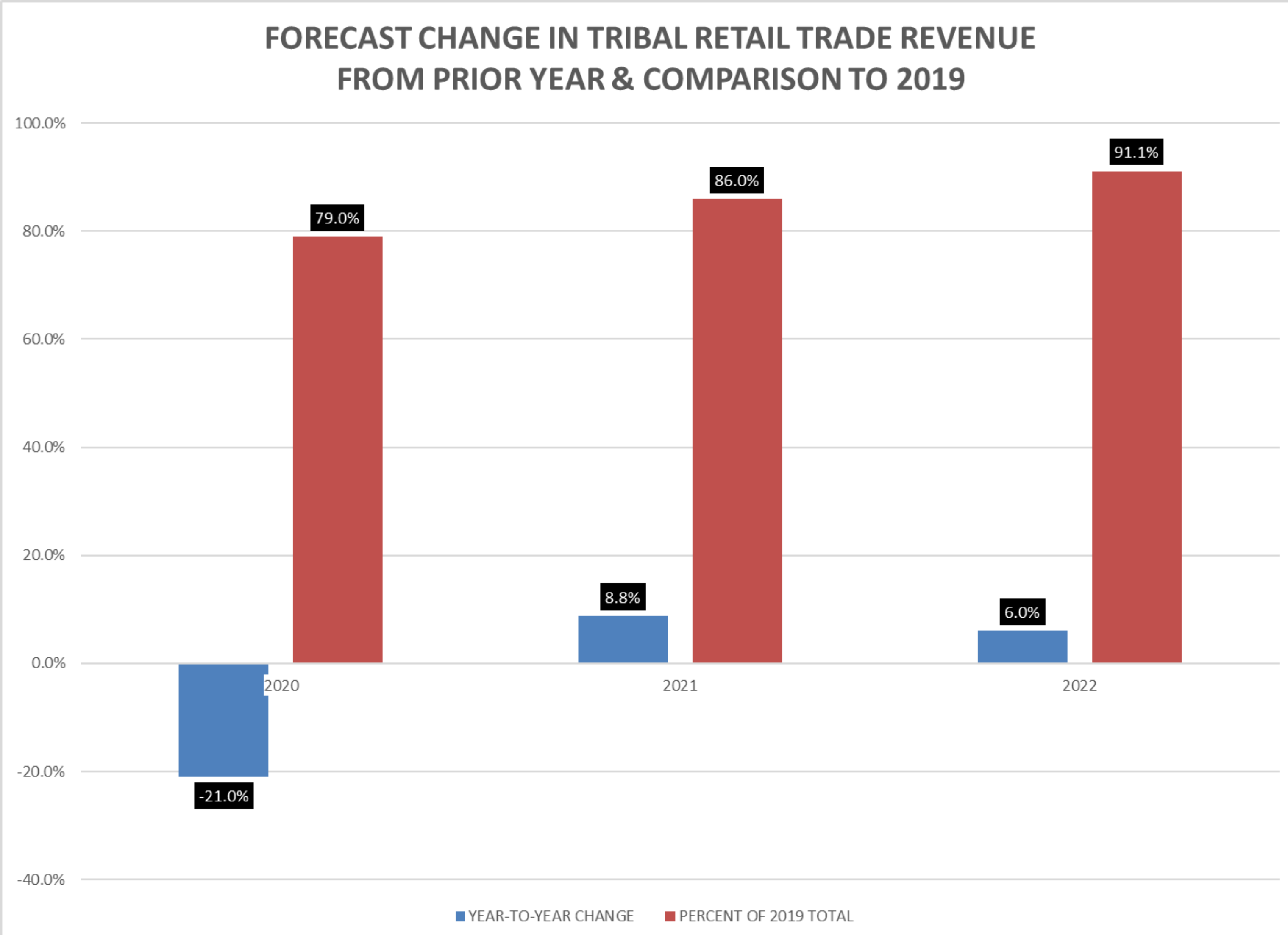
The demand side of the equation is not the only issue. As already noted, there is likely to be a shift toward hedging supply chains to ensure adequate stock. This includes the aforementioned diversification of suppliers, as well as a likely increase in par stocking with corresponding added space needs. While increased inventory space will not come close to compensating for reductions in total space due to closures and consolidations, it will add to the cost profile and capital needs for those remaining in operations. Also as mentioned before, per employee costs and other operating expenses will increase due to new operating rules and sanitation requirements as well as the pressure on wages from the crisis pay increases that will be harder to take back than to give in the first place. While overall staffing levels are likely to fall in the new operating environment, that will not fully compensate for the factors increasing costs. The probable result is a combination of price increases and squeezed profit margins.

Retail has long been a major component of Indian economies, whether tourist driven through arts and crafts or on a larger scale for tribal member needs and to serve the surrounding area. Some tribes have become large scale retail developers and operators, either in association with casino resorts or because of their proximity to urban areas. Most tribal retail is still smaller scale and locally focused. In rural and tourist areas, this can offer some protection from the disruptions associated with shifts to online retailing. Indeed, online retailing can provide significant boosts to niche retailers able to establish an online presence for their unique products. It cannot, however, protect from general declines in consumer spending, local job losses and reduced tourism.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal retail trade revenue of 21.0 percent for 2020. For 2021, we forecast an increase in tribal retail trade revenue of 8.8 percent from 2020 levels as recovery begins on a limited basis, still leaving the industry 14.0 percent below estimated 2019 levels. In 2022, gradual but slow recovery is forecast to continue, with revenue up 6.0 percent from 2021. This will still leave the sector 8.9 percent below its 2019 level. Full recovery is likely to take an additional one to three years beyond 2022. This information is presented in the graph on the following page.

Transportation & Warehousing

The story of the transportation and warehousing sector is a tale of two segments moving in opposite directions. Passenger air travel and other passenger transport has been decimated by the pandemic, mostly from lost demand rather than restrictions, although restrictions have also played a part. Freight transportation and warehousing demand has surged due to the pandemic and mitigation efforts, although not without some struggles due to the supply chain disruptions previously described. Both tales are ongoing and are likely to have very different endings.


FORECAST CHANGE IN TRIBAL RETAIL TRADE REVENUE
FROM PRIOR YEAR & COMPARISON TO 2019
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
-40.0%
79.0%
86.0%
91.1%
-21.0%
8.8%
6.0%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

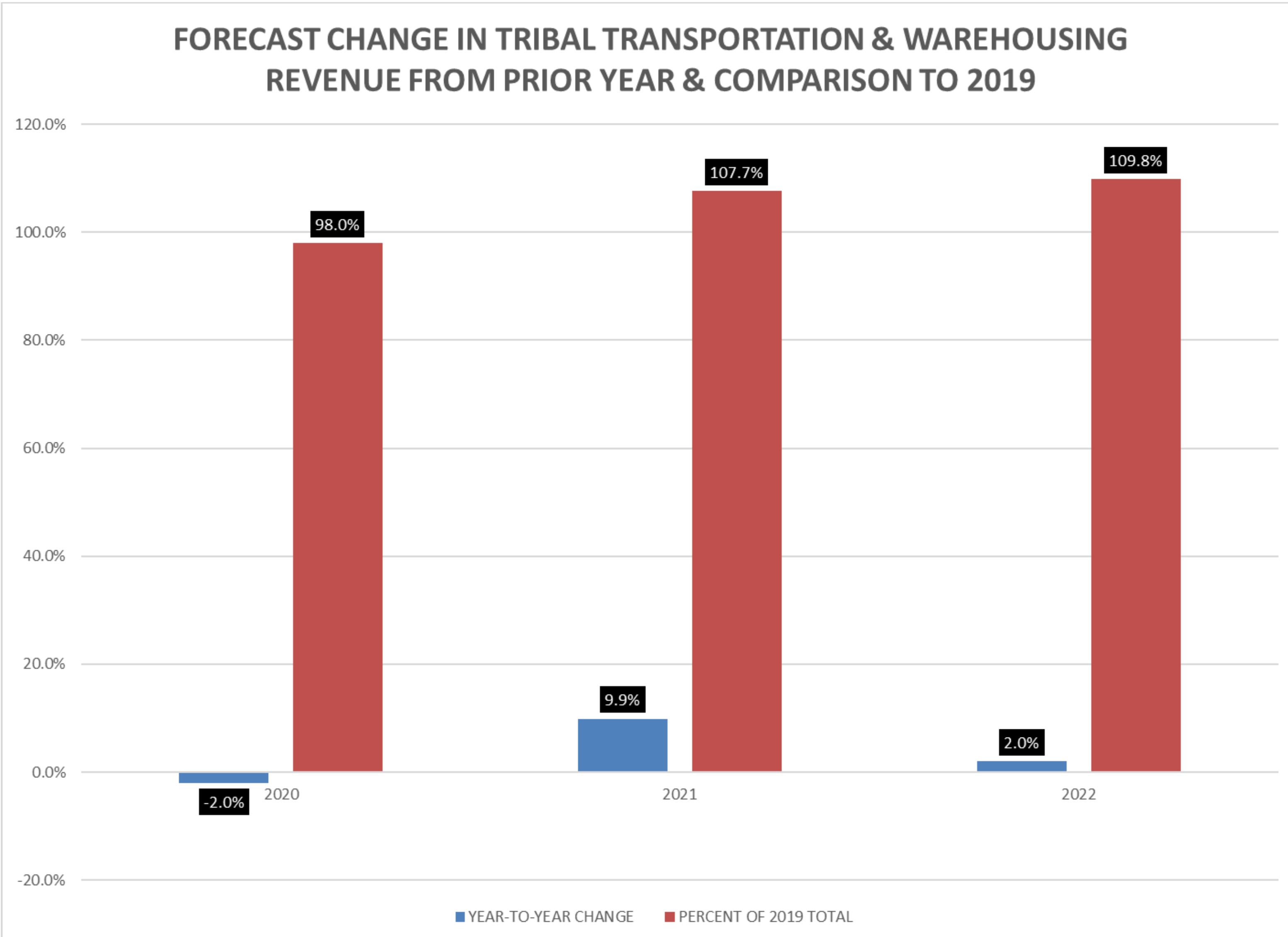
Air travel, both tourist and business, is expected to remain down well beyond the end of the pandemic and any governmental restrictions. Continued health concerns, changes in the travel experience due to PPE use and related factors, reduced personal incomes, reduced international travel, the economic struggles of the industry itself and other lingering issues are expected to constrain recovery in air travel and continue to affect other forms of public transportation to lesser degrees even after the pandemic ends.

Freight on the other hand, both its movement and storage, will continue to benefit from the increase in online shopping, the diversification of supply chains, increased par stock and inventory space needs, and general shifts in business patterns caused initially by the pandemic but remaining after its conclusion under new operating and consumption paradigms. The general economic downturn will dampen freight and warehouse needs to a degree, at least this year. However, we expect demand growth from the shift in business patterns to quickly compensate for the negative pressures in the broader economy, producing growth as early as next year. Furthermore, since freight and warehousing comprise the vast majority of output for the sector, growth in those segments will mean growth for the sector as a whole. This is even more true for tribal economies, which have little direct involvement in passenger transport.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal transportation and warehousing revenue of 2.0 percent for 2020. For 2021, we forecast an increase in tribal transportation and warehousing revenue of 9.9 percent from 2020 levels, pushing the sector past estimated 2019 levels by 7.7 percent. In 2022, growth is forecast to continue at a slower pace, with revenue up 2.0 percent from 2021, resulting in total revenue up 9.8 percent from estimated 2019 levels. This information is presented in the graph on the following page.

Other Industry Sectors

Other sectors include utilities, the majority of the service sector group other than tourist and leisure-related services, and government. Most industries in these categories are expected to see patterns similar to those already discussed, although generally not as severe. While some service businesses, particularly personal services such as beauty salons and fitness centers, have been hit every bit as severely as food service and retail and will continue to suffer in much the same way, the bulk of services are not as consumer driven and less susceptible to pandemic driven restrictions. Two service sectors worthy of note are education and health services.



FORECAST CHANGE IN TRIBAL TRANSPORTATION & WAREHOUSING REVENUE FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
98.0%
107.7%
109.8%
-2.0%
9.9%
2.0%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

Education has also been severely damaged by necessary mitigation efforts to control viral spread. On the private side, educational institutions at all levels are struggling with lost revenue, refunds for room and board charges and the possibility that disruptions will extend into the fall and winter. At the public level, declines in tax revenue will affect school budgets whenever they are allowed to reopen. Much like retail, online versions of educational programs were already beginning to replace brick and mortar versions, but to a much lesser degree and with less satisfactory results. The forced shift to all online models during the crisis will result in increase reliance on that option even after the pandemic passes. However, online learning is a long way from satisfying the end user to the same degree as in person models. Lower costs to the consumer will add to demand for online learning as well. At the same time, they will put even greater strain on operating margins and budgets for educational institutions of all types, requiring new operating and funding schemes.

The effects on the healthcare sector are more subtle and more complicated. While overwhelmed ICUs and layoffs of non-critical care staff are far from subtle, the longer-term impacts on care models and healthcare economics will be complex. New distance and online models of care are proving to be both cost effective and satisfactory to the customer without, at least so far, showing any serious impact on quality of care, recovery and mortality. This is likely to change customer and provider behavior more thoroughly and permanently than in almost any other industry sector. However, the economics of that shift remain to be worked out. With the severity of the pandemic on congregate care facilities well documented, a greater emphasis on in home care services and supplies is inevitable, both for recovery and for senior living. This too will require significant improvements and adjustments in current operating models that will take time to work out. During the transitional phase, glitches, particularly those that cause injury or death or those that result in significant cost of care imbalances, may slow or even reverse the process temporarily. However, we expect a long-term transition to greater in home and less institutional care to be a permanent trend. Of course, the healthcare sector, as one of the most heavily affected by government regulations, will continue to have its economic prospects changed as much by government action as by the forces of supply and demand.

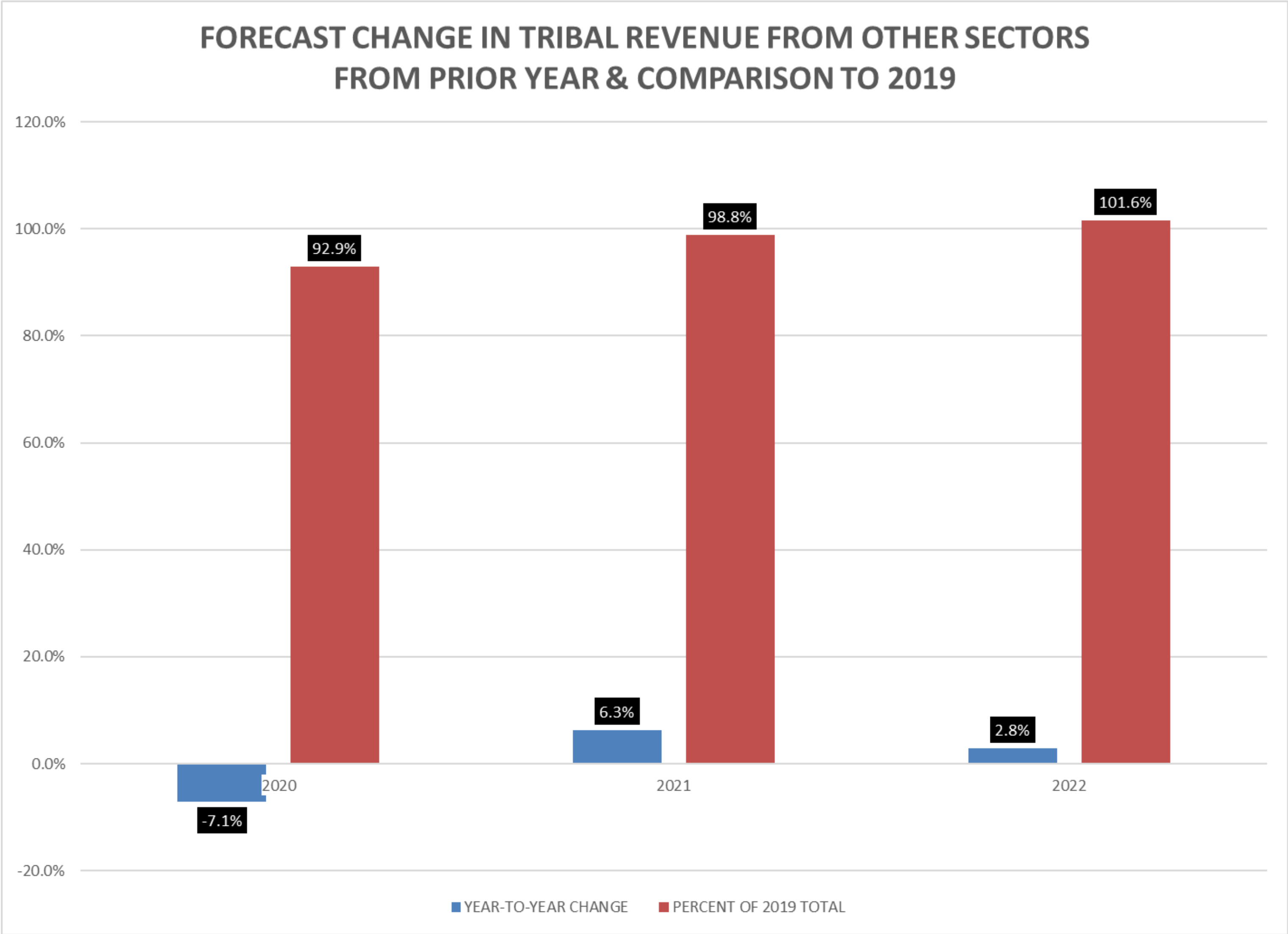
Government as a sector is expected to undergo a pattern most similar to the construction industry, with lagged negative impacts following initial growth due to stimulus attempts. The need for stimuli will remain apparent through next year. However, the pressure on local and state finances will constrain their ability to respond and eventually even impact the federal government.

The real estate and financial sectors will both be impacted by the economic downturn as homeowners and renters find themselves unable to make their monthly payments. Commercial and multi-family property owners will have similar difficulties meeting their own mortgage obligations. This, in turn, will cause credit to tighten even if the Federal Reserve moves to bolster capital access. The congregate care subsector of the real estate market will face particular challenges going forward from lost consumer confidence and increased operating costs. This does not mean that individual projects and operators will be unable to make a profit. There are always opportunities in the real estate and financial sectors due to the intensely local nature of the business model.

Based upon the assumptions about the course of the pandemic described previously and our analysis of economic factors, prior business cycle patterns in periods of crisis, and the likely impacts of changes in operations and customer behavior, we forecast a decline in tribal revenue from other industrial sectors of 7.1 percent for 2020. For 2021, we forecast an increase in tribal revenue from other sectors of 6.3 percent from 2020 levels as recovery begins, still leaving the industry 1.2 percent below estimated 2019 levels. In 2022, full recovery is forecast to occur, with revenue up 2.8 percent from 2021. Total tribal revenue from other sectors in 2022 is forecast to exceed 2019 levels by 1.6 percent. This information is presented in the graph on the following page.

SUMMARY

The severe disruptions from the global pandemic and from necessary efforts to mitigate its spread are already impacting the economies of Indian country and of the U.S. as a whole. Based upon assumptions about the length and severity of the pandemic and analyses of current and past economic conditions in crisis and recessionary circumstances, negative impacts across all sectors are expected for 2020 with varying but generally major degrees of severity. Negative impacts are forecast to continue in nearly all sectors in 2021 although recovery will begin in most cases. By the end of 2022 most sectors will be approaching full recovery or may have already reached it in some cases. However, certain sectors will not reach full recovery until 2023 or even later.


FORECAST CHANGE IN TRIBAL REVENUE FROM OTHER SECTORS
FROM PRIOR YEAR & COMPARISON TO 2019
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
-20.0%
92.9%
98.8%
101.6%
-7.1%
6.3%
2.8%
2020
2021
2022
YEAR-TO-YEAR CHANGE
PERCENT OF 2019 TOTAL

PRESCRIPTIONS

GENERAL

There are already a plethora of checklists, model procedures and minimum operating standards available for businesses off all types, many of which were necessary to allow for initial reopening attempts or to maintain essential operations. These have been developed by various governments, industry and trade groups and individual operators and consultants. It is not our goal in this section to duplicate those efforts. Our focus in this section is to provide practical recommendations based upon anticipated trends to guide and enhance the recovery process across Indian country and all of its economic sectors. The recommendations and the ideas underlying them are not presented as comprehensive, exhaustive or completely original. They are a compendium of our own analyses, best practices already being observed and extrapolations of likely refinements in initial steps designed to give a broad and high-level framework to assist tribal economic recovery

PRESCRIPTIONS ACROSS SECTORS

Some of the recommendations we offer do not apply to specific industry sectors, but rather apply to tribal economies as a whole. These recommendations are described in the following pages.

RECOVERY PHASES

The recovery process will occur in phases that will overlap and shift back and forth to some degree with differing start dates and end dates depending upon region, industry and pandemic conditions. We characterize the three phases as Initial, Transitional, and Recovery. Descriptions and recommendations for each phase are offered below.

Initial Phase (June to December 2020)

The initial phase has already begun with the first tentative steps toward partial lifting of restrictions and reopening of shuttered businesses. This phase will overlap with the ongoing crisis, which is expected to extend into the first half of next year and also with the transitional phase that will follow. The degree of overlap with both will depend upon pandemic conditions and government actions in each area and will be characterized by shifts backward on occasion as second and possible third waves of outbreaks surface. The actions taken during the initial phase will be ad hoc, quickly applied with varying degrees of success and in need of frequent adjustment or revision. Versions of this have already been scene in such areas as the PPP loan program and other CARES stimuli, recommendations on mask wearing, opening and then reclosing schools in South Korea, and other similar actions.

The initial phase will continue to be a period of experiment and adjustment, as government, industry associations, unions and individual operators attempt to find some means of increasing economic activity without triggering a return to exponential viral growth in their areas. While the weaknesses of poor coordination and inconsistent communication inherent in our decentralized capitalist system have been apparent during the early stage of the crisis, its strengths in terms of innovation, creativity and incentive are also on display and will become increasingly evident during this phase. To a certain extent, no system or approach can fully overcome the inevitable shifts in information, recommendations and operating processes and results that will characterize this phase as the virus itself, about which there is still much we do not know, continues to be the primary driver. For that reason, more severe restrictions will remain in place during this time and even be strengthened at times in some areas as outbreaks are renewed.

Within this context, key recommendations and areas of focus include:

- Watching for promising new ideas and approaches taken by others and implementing them quickly
- Maintaining close communication with employees, customers and government, including both listening and informing, to minimize confusion and maximize the compliance with and benefits of any steps taken
- Monitoring actual versus expected results and not hesitating to change or revoke steps that do not produce desired results
- Publicizing the steps you take widely
- Planning in advance for retrenchment in the event of a viral surge
- Planning in advance for the next round of actions to take as conditions improve and restrictions are eased
- Careful evaluation of costs versus benefits to inform future revisions
- Avoidance of the language of failure or error and instead focusing on language of learning, refinement and evolution

Transitional Phase (October 2020 to September 2021)

The exact timing of the transitional phase will depend heavily on the timing of the anticipated secondary peak in COVID-19 cases, widely assumed to be coming in the fall but with the potential to happen earlier or later. As with the initial outbreak, that timing will vary by region. However, at some point during the period listed for most if not all locations, the transition will begin from more intensive restrictions to a resumption of general business activity in modified form. Although wider reopenings in some parts of the country are getting considerable press already, they do not really constitute the degree of loosening that will occur during the transition phase. The main difference will be a shift from regulations focused on crisis intervention to those focused on maintaining progress and restructuring the economy for improved long-term protection, not only from COVID-19, but from any future similar problem.

A relatively recent historical example would be the shift in air travel security rules from the initial crisis response after 9/11 in 2002 and 2003 to the beginnings of the format we now use that developed in the three to five years after that and is now considered commonplace. As you will recall from that transition, rules continued to shift, in some cases becoming more restrictive, but generally becoming less so, with public activity moving toward the so called "new normal." The same will be true during this time, although likely on a more accelerated basis due to the magnitude of the impacts of the crisis level restrictions and the importance of economic recovery.

During the transition phase, more businesses will be allowed to reopen and those that already have will see operating restrictions further reduced, but not eliminated. The changes in operating procedures will converge toward new and more permanent models suitable to the risks and economic requirements of each industry and region, tempered by regional differences in government and social philosophy. The first attempts at more durable and workable versions of increased spacing, capacity adjustments, personal and structural barriers and sanitation practices will occur and evolve.

Within this context, key recommendations and areas of focus include:

- Continuing to watch for promising adjustments and approaches taken by others and applying them to your own environment
- Using operating results, customer and employee feedback and revised government directives to inform easing or adjusting of rules.
- Taking initial steps to make temporary structural changes permanent as needed
- Experimenting with internal design and materials to improve the comfort, efficiency and appearance of barriers and spacing requirements
- Planning in advance for long-term adjustments in space, product lines, pricing, staffing and business models to reflect the clearer picture of the evolving "new normal"
- Publicizing and celebrating successes, enhancements and easing of restrictions
- Personalizing the evolving long-term operating patterns to your particular business and customer base

Recovery Phase (September 2021 to Early 2023)

During the recovery phase, the transitional steps taken in preceding months will be further refined and made permanent. The most important aspect of this phase will be the end of direct unpredictable and rapidly changing governmental intervention in exchange for stabilized and permanent policies upon which operators can rely for future planning.

As the pandemic is brought to a manageable level on a long-term basis, either through a vaccine, treatment improvements or other steps, government action will return to the normal pattern of slow, legislatively-driven regulations rather than rapid emergency edicts. Although the post-pandemic regulatory environment is expected to include permanent changes in operating rules to protect public health, those changes will be less onerous and stable, allowing for business to evolve within that environment and move forward. Again, the changes in airport security provide a good example.

As government actions become less frequent, less intrusive and more predictable and as the virus itself becomes less of a threat to suddenly overturn the economy, standard economic forces and principles will once again be the primary drivers of markets and financial performance, making long-range planning and business evolution easier. This does not mean that the recovery will be complete, as we have already discussed. It means, however, that it will be on a more predictable and stable path and that actual new growth will be in reach.

During this period, new procedures, designs, products, pricing levels, staffing levels and market positioning developed during the transitional phase will stabilize and become a permanent part of each industry sector throughout Indian country and the U.S. as a whole, always with the local nuances and peculiarities of an economy and geography as large as ours. Also during this period, new business ventures will begin to appear and grow, replacing lost businesses that were unable to survive the crisis and seeded in many cases by the very staff and investors of those same businesses. Not unlike a forest floor sprouting new growth after a fire, the economy will be boosted by new versions of old businesses and business models and by some new growth that is entirely different in character and focus. Such new growth carries its own instability and weaknesses. However, it also drives advancement for the economy as a whole.

Within this context, key recommendations and areas of focus include:

- Resumption of traditional rather than emergency strategic planning to maximize market position and profitability
- Continued communication with customers, employees and civic leaders.
- More significant capital expenditures to maximize the efficiency, customer appeal and profitability of operations
- A resumption of traditional government advocacy to refine, improve, add or remove post-pandemic regulations
- Exploration of new business lines, cross-fertilization, vertical and/or horizontal integration and other opportunities in the new economic environment given your own internal strengths and weaknesses
- Document all actions taken during crisis and recovery, including what worked and what did not to provide a guide for future crises

INTER-TRIBAL COOPERATION & COORDINATION

Tribes and multi-tribal organizations have already been working aggressively together to seek stimulus and emergency funding for their people during the current crisis. There have also been clashes and conflict over the division of the proceeds authorized to date. Both patterns preexist the pandemic and are the natural outgrowth of the combination of mutual and competing interests present in Indian country in the underfunded and not fully controllable or predictable environment of U.S.-Tribal relations.

During the recovery process in all three phases and across all industry sectors, cooperation, coordination and mutual support between tribes and tribal organization will be even more important than ever. This is not merely for defensive purposes, to protect what tribes have and recapture what has been lost in the crisis. It will also be critical to capitalizing on the new opportunities presented by the pandemic and its aftermath that can allow tribes to move past recovery to new advancement with the right set of circumstances. Our recommendations presented below in this regard are not offered as some sort of revelation or new idea. They represent what tribes are already doing and have done. Rather the recommendations are meant to encourage and support those steps within the broader context of the pandemic and recovery and our expectations of its effects on Indian country.

Association/Organization to Association/Organization

Tribes have many national and regional associations and organizations representing their interests at the state and federal level and working to disseminate information on opportunities and best practices to their member tribes. These highly effective organizations already communicate and coordinate in various ways where their interests overlap and offer mutual support even in other areas. These efforts will need to intensify even further during and after the recovery process in both frequency and formality to position Indian country as a whole to best benefit from new opportunities that we anticipate will arise.

Given our expectations, already discussed, regarding shifts in international trade, supply chain diversification, growth in transportation and warehousing, government stimulus efforts, government funding needs and financial market pressure, coordination in messaging and focus across different tribal associations will greatly enhance the efforts of each individually to minister to tribal needs in its particular area of expertise. This does not mean lockstep efforts or setting aside priorities unique to only once such association or set of tribes in favor of only those important to Indian country as a whole. Individual, divergent and even on occasion competing efforts cannot and should not be eliminated. However, if multi-tribal organizations can move aggressively to provide unified support for areas that do bridge constituencies and concerns and to develop a common language of phrasing, visualization and emphasis for those areas they can not only increase their impact in such areas of advocacy but also increase the power of their individual messages through the appearance of unity and magnitude.

Within this context, key recommendations and areas of focus include:

- Formal coordination through regular meetings of key staff in major national and regional organizations (e.g. NIGA, NCAI, NCAIED, American Indian Chamber of Commerce, NAFOA and many others, including their regional counterparts) to set agendas, monitor progress and share ideas and areas of emphasis
- Development amongst the organizations of standardized messaging, phrasing and key words applicable to area of common interest as well as to areas of individual emphasis (e.g. the word "sovereignty" which has become an extremely effective rallying cry across numerous issues)
- Continued and enhanced joint appearances before government agencies and elected officials and invitations to such to appear at joint gatherings
- Coordinated public relations efforts in the media and at state and local levels in addition to the federal government to highlight the areas of common concern and engrain the standardized phrasing and key words into the public lexicon
- Regular reports back to their own individual memberships regarding their coordination efforts to boost enthusiasm and support at the tribal leader and tribal member level
- Leverage associate member knowledge and resources to boost impact

Tribe to Tribe

While nascent regional cooperation amongst state governors to deal with the pandemic due to a perceived lack of federal leadership and support has been widely publicized, tribe to tribe cooperation and support is a practice of long standing that predates the pandemic. Tribes across Indian country have shown themselves to be remarkably supportive and forthcoming to their fellow Native Americans in sharing best practices, information on new opportunities, sources of funding, employment initiatives, methods of dealing with the government and numerous other examples. Individual tribes with more substantial financial resources have provided capital through lending and grants to less fortunate tribes to support economic development projects. In the same way, tribes with unique operating and development expertise have shared that expertise with other tribes, either on a fee for service or even a pro bono basis. Charitable efforts between tribes in times of crisis are well documented.

Inter-tribal cooperation will be of even greater importance during and after the recovery period from the current crisis. This is not just a matter of supporting and lifting each other up. The economic opportunities presented by expected market and business changes referenced above will be far more accessible to individual tribes if they are able to work together to pursue them. This cannot be done solely at the multi-tribal association level.

An example of the type of cooperation envisioned would be the development of the Residence Inn in Washington D.C. near the National Museum of the American Indian, which was financed by a consortium of tribes. Similar joint efforts could be applied to many business opportunities both on and off reservations. Such joint efforts could also be applied to grant programs and experimental initiatives to boost employment health and other key support for tribal members through pilot programs developed and proposed by cooperating tribes or cooperative efforts to adapt existing programs to the tribal environment.

Within this context, key recommendations and areas of focus include:

- Development of consortiums between land-rich, labor-rich, resource-rich and financially successful tribes to develop new business ventures capitalizing on shifting trade and supply chain patterns, with development located to maximize needed employment or market/resource access with investment from tribes lacking such needs or opportunities but having cash available for investment
- Continued and expanded lending and investment tribe-to-tribe for renovation and expansion of existing facilities to meet new operating requirements as recovery takes hold
- Continued joint efforts to support needy Native Americans not living on their home reservations
- Continued, renewed or expanded support by individual tribes for the multi-tribal organizations and associations previously referenced
- Increased efforts to make inter-tribal purchases, whether tax-advantaged or not, and support Indian-owned businesses

SUPPLY CHAIN DIVERSIFICATION

We have discussed at several points the expected trend toward diversification of the supply chain to provide a more robust and flexible source of suppliers and customers in the event of future major economic disruptions. Lessons learned directly by users along the supply chain unable to obtain needed or wanted products and by suppliers in the chain suddenly left with nowhere to sell their products will not be easily or quickly forgotten, whether learned directly through destruction of completed but perishable output or inability to find supplies, or indirectly through the myriad news stories documenting the issue. There will be counter pressure to retain old patterns due to the efficiency of single sourcing and just-in-time inventory models. However, the perceived security of a reliable source at a predictable volume has been severely damaged. Now, greater security through multiple sources and outlets will be perceived by many to be a worthwhile hedge, even if there is a loss in predictability of needs and increased pricing competition in both directions.

The examples have appeared throughout the supply chain during the crisis. At the beginning of the chain, farmers were forced to dump milk and eggs, euthanize animals and let crops rot in the field. At the same time, oil traders were forced to pay people to take product off their hands. At the other end, grocery stores experienced persistent runs and undersupply of many products, as did supplies of PPE, testing reagents, internet services and other products and services. Retail stores with more narrow and specialized product offerings were forced to close while retailers such as Target and Walmart continued to operate by selling groceries and pharmaceuticals along with clothing and electronics. In between disruptions occurred all along the supply chain, either causing interruptions to production and processing or buildups of unsold inventory and price cuts.

Diversification of the supply chain is more complicated than simply calling more vendors or marketing to more consumers. Vendor relationships must be vetted and established with appropriate quality control, competitive pricing and reliable delivery. Customer relationships must also be established, also with competitive pricing, demonstration of product quality and availability and generation of sufficient orders to support production runs. At the same time, inventory space and par stocking patterns must be altered to allow for greater short-term variation in supply and sales levels in exchange for protection against catastrophic all-to-nothing shifts in times of crisis. This affects space needs, staffing levels, production lines and distribution channels. A key question is the degree to which individual operators should rely on their own space and logistics or outsource those functions to specialty service providers to some degree. With smaller amounts from multiple sources and greater lead time from order to delivery to use/sale, the dynamics of those choices change.

While these issues will provide challenges for tribal businesses of all types and at all levels of the supply chain, we believe the trend toward diversification will provide significant opportunities as well, particularly for the types of consortiums described previously. The trend toward diversification will not simply be one of market forces and operators' responses to crisis lessons. Government at all levels, particularly at the federal level, will be under pressure to encourage and perhaps even mandate in some cases, development of more robust and diverse supply chains.

Tribes have the opportunity to present themselves as a unique solution to such issues, with a combination of land, labor (albeit requiring training in many cases), favorable tax and regulatory structures and potentially even free capital in some cases. Development of new production and processing facilities and transportation and warehousing hubs on tribal lands in strategic locations will offer added benefits beyond the immediate supply chain issue, including employment and economic activity in distressed areas and enhancement of tribal and rural economies.

Within this context, key recommendations and areas of focus include:

- Internal review of all vendor sourcing across all tribal businesses to identify and develop additional reliable and high-quality sources
- Encouragement of, investment in and directed purchasing from existing and new AIAN-owned suppliers
- Reevaluation of customers and product/service lines to identify opportunities for additional direct or spinoff/leveraged markets, including increased tribe-to-tribe selling
- Lobbying and pursuit of government grants, loan programs and other incentive programs to support new, expanded or diversified production and distribution
- Active discussions at the association level and tribe-to-tribe of networks and consortiums to aid supply chain diversification
- Strategic planning and investment with a focus on longer return cycle development to allow new diversifying business ventures time to establish their markets
- Further exploration of tax advantages and other regulatory benefits of tribal development and tribe-to-tribe transactions, as well as tribe to non-tribal sources, to market and support new diversification efforts.

FINANCING & WORKOUTS

New tribal consortiums and new business ventures of individual tribes will require financing that will not be cookie cutter and may be forced to accept a longer amortization schedule. Other physical and operational adjustments yet to be discussed in individual tribal business sectors during the transitional recovery phases will also require financing coming off or even in the midst of a severely disrupted period of operations. Also, unavoidably given the severity of the crisis, workouts and refinancing will be needed to enable otherwise viable but capital and cash starved existing tribal ventures to survive the crisis and receive the time needed to return to a normal footing, recognizing that normal will not necessarily look the same. Even the shift in inventory and supply chain practices will require adjustment in operating capital support.

This will all take place during a period where, despite the best efforts of the Federal Reserve, credit will almost certainly tighten due to changes in underwriting perspectives and rules. It will require an uncomfortable reliance on forward looking statements or equally uncertain reliance on pre-pandemic operating performance levels to support expectations of capital repayment that cannot be realistically supported by current or immediate past cash flow.

We regard the potential for the types of tribal consortiums and tribe-to-tribe lending already discussed and seen even before the pandemic to be one part of the solution but not the solution in total. In order to satisfy capital markets, not to mention tribal leadership, intensive rounds of strategic planning, workout negotiations, creative financing proposals, forecasts of future operating results with varying assumptions and alternatives, and careful analysis of actual experience before and during the crisis to support conclusions of future potential will all be required, probably on a frequent and repeatedly updated basis.

Within this context, key recommendations and areas of focus include:

- Internal working groups as quickly as possible given crisis conditions to begin a pre-planning process looking at likely issues and areas of focus unique to each tribe and tribal business
- As time, capital and staffing permits, initiation of business-level and tribal-level strategic planning for recovery and future long-term operating models
- On-going communication with existing and past lenders to establish dialogue about needs, limitations, expectations and opportunities
- Project, loan or venture-specific evaluation of pre-pandemic, pandemic and likely post-pandemic operating results given available information and current plans, including range and alternative estimates
- Active discussions at the association level and tribe-to-tribe of alternative capital sources, workout strategies and best practices
- Continued lobbying of government support for reparative, restorative and generative initiatives

INSURANCE & LEGAL

The pandemic has created a whole new set of legal and insurance concerns regarding liability, business interruption, worker safety, product safety, return policies, regulatory compliance, reporting, privacy and other issues. There is already talk at the federal level of legislation to protect businesses from liability issues. How all of the issues will be resolved is yet to be determined and will likely continue to play out even after the virus itself has passed. The uncertainty created by a lack of final and reliable determination on such issues will be an operating constraint in its own right, affecting staffing and reopening decisions, insurance costs and other matter.

Within this context, key recommendations and areas of focus include:

- Immediate discussions with internal and external counsel, as well as relevant industry associations and government representatives to determine the extent and character of liability for Indian tribes and AIAN-owned businesses across all sectors

- Negotiations with insurance providers regarding policy coverage and disbursement procedures to identify areas of disagreement and begin the claims filing process
- Documentation of all necessary actions taken, operating or practical results, government guidance, communications and publicity efforts to create a paper trail in the event of litigation
- Review and enhancement of publication and communication of all relevant policies, regulations and declared liability limits to customers, employees, vendors and tribal members

SANITATION, PPE AND OTHER HEALTH PROTECTIONS

Sanitation efforts and PPE requirements for customers and staff have been amongst the most problematic aspects of mitigation efforts for the pandemic due to inadequate and unreliable supplies, as well as rapidly changing and even contradictory guidance from government and the medical community. The supply chain has mostly, if perhaps not completely, stabilized. Guidance also is stabilizing to a degree, although future incongruities are likely during the expected resurgence of second and perhaps even third waves. Aside from the crisis driven actions being taken for now and the immediate future, issues of sanitation and PPE use will remain after the pandemic has passed as a part of the increased long-term focus on public and worker health.

The efforts to date have been the epitome of ad hoc actions, with improvised dividers, bandanas for face masks, tape marks on floors for spacing, temperature checks, interviews and other short-term solutions to speed reopening or avoid closure. Their success has been varied. The most publicized failures, in health and senior care and in food processing, have been as much the fault of indifferent application under confused guidance as of any inadequacy of the barriers and masks. As a practical matter, however, there are limits to how effective even the best and most consistently applied measure can be in the face of a virus that is highly communicable even when bearers are asymptomatic.

As the crisis continues over the next 10-12 months, sanitation, PPE and other health protections will be further refined, more effectively applied and more narrowly targeted. But this will only occur as it has to date, with trial and inevitable error and lags in the formulation, dissemination and application of best practices. Tribes have, for the most part, chosen to be among the more conservative practitioners, enacting safety measures and constraints at least as and sometimes more restrictive than their surrounding areas. Under the circumstances, we consider this tendency to be prudent, not only in the short-term, but in the long-term in demonstrating care for customers and staff that will be remembered. Even in areas where restrictions are controversial, we believe the long-term response and corporate memory will be of tribes that cared deeply for their people, staff and customers and took aggressive steps to protect them in uncertain times, even if those steps were ultimately shown to be more restrictive than necessary.

Once the pandemic has permanently receded, remaining public health measures will be targeted toward preventive measures to slow the spread of any future occurrence before it is widely recognized to reduce the chance of exponential growth before government and industry can react. For a period of time, sanitation and protective measures will be an actual marketing point, useful for assuring edgy customers of maximum possible safety. Eventually they will become commonplace and most likely required, much like sprinklers, crash doors, fire exits and other prior safety enhancements responding to prior crises. However, even with required and widely accepted safety measures, convenience, comfort, cost and efficiency remain factors that must be regularly reevaluated with adjustments made as new procedures or technologies are invented.

Within this context, key recommendations and areas of focus include:

- Active pursuit of diversified supply lines for all sanitation, PPE and other health protection supplies, including development of tribal production for internal use and external sale where feasible
- Study and monitoring of enhancements to improve the comfort of PPE for employees and customers without losing effectiveness
- Analysis of interior design standards to make distancing and barriers for customers and staff, both front-of-house and back-of-house, more attractive, less intrusive and more convenient/efficient
- Segmentation of customer and work groups into smaller clusters where possible to reduce potential spread, either through space designation, activity/process segregation or scheduling
- Identification of key customer groups for special attention that can be attracted by providing added protection versus the general population
- Active discussion at the association and tribe-to-tribe level of innovations, best practices and supply sources
- Frequent reevaluation of the placement and types of sanitizing equipment to ease and enhance customer and employee usage and decrease the cost and time needed to refill, replace and dispose of spent materials
- Customization of PPE with logos, names and other marketing material for sale or free distribution as appropriate to staff and customers
- Active training of staff on engagement with customers and each other to encourage cooperation in policies and procedures in a non-confrontational manner with clear chains of command for reporting or enlisting aid in situations of non-compliance
- Pursuit of opportunities to provide sanitation and PPE supplies with logos on a charitable basis to people or institutions in need
- Automation of dispensing, tracking, and resupplying of sanitation and PPE wherever possible

AUTOMATION

The pandemic and the economic crisis that it has spawned as a side effect are driven by the vulnerability of human beings and human institutions. Automation has long been an answer to human frailty, inefficiency and expense. Since the pandemic only affects humans (and the odd pet or tiger), not machines, increases in automation can reduce the impact of future pandemics and slow their spread. This is already being seen in shifts to fully automated restroom equipment. At all levels of the supply chain and across all sectors, additional interest in new methods of automation is expected to protect businesses, their staff and their customers.

Within this context, key recommendations and areas of focus include:

- Conversion where possible to touch-free processes, particularly in restrooms, entrances and other places where motion sensing is practical
- Conversion where practical to automated dispensing from supplies, to products, to currency/change, to PPE, to liquids, to raw materials and to any other potential machine dispensable item or service
- Training for staff on the proper use and maintenance of automated equipment and dispensers
- Education and promotion for customers on the use and benefits of automated equipment
- Inclusion of added automation in any redesign, renovation, expansion or new development to the extent allowed by space, capital and market position

INDIVIDUAL SECTOR PRESCRIPTIONS

While the prescriptions described in the preceding pages apply in various ways across all tribal business sectors and operations, there are many additional recommendations for actions specific to the needs and market conditions of particular sectors only. These recommendations are offered below by sector.

Gaming

The recovery process and post-pandemic operating environment will bring many changes to the gaming floor and to the many ancillary facilities at Indian casinos and resorts. The three most significant areas where changes will be most pronounced and important are in the use of and need for space, the identification of and care for high value customers, and provision of food and beverage service to customers.

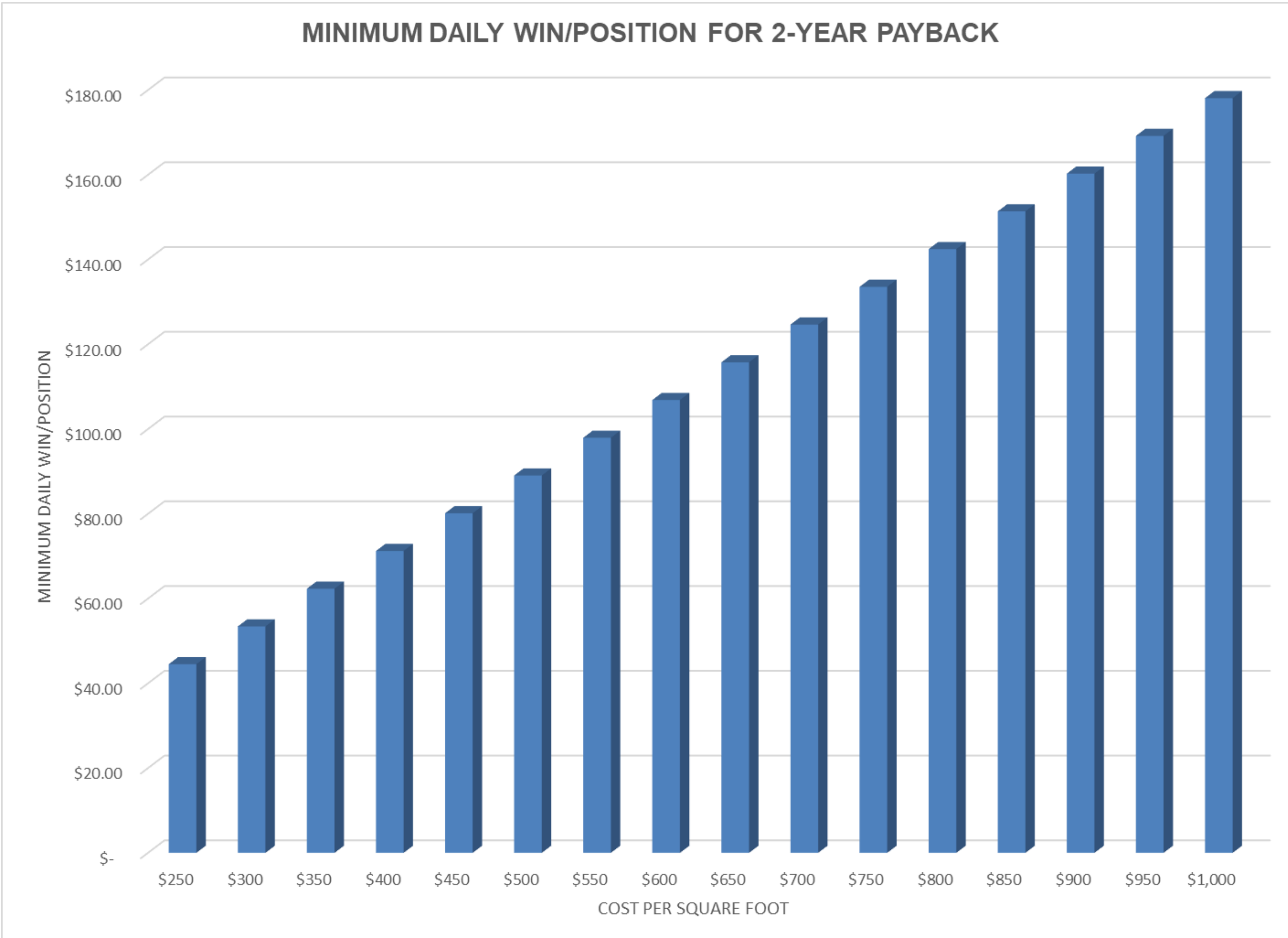
Space Use and Needs

As already discussed, social distancing and capacity restrictions required under current mitigation efforts have been addressed on an ad hoc basis that will not be suitable to long-term use. Simply turning off machines, removing seats from table games, closing entrances and erecting plastic barriers as quickly and cheaply as possible to get the doors open, will all need to be adjusted and replaced over time by solutions that are more attractive to the customer, more durable in everyday use and more efficient for staff to clean and work around. Gaming has a unique advantage over most businesses in being able to capture large percentages of its total revenue base from relatively small percentages of their customers. However, even casinos are limited in their ability to meet demand and maximize profits in a space restricted environment. Also, even with adequate spacing between machines and table seats, customer circulation, lines for cashiers and rewards and higher demand for favored games and denominations inevitably lead to customer and employee proximity that defeats the social distancing goals of the spacing efforts.

For facilities that have the land base to physically expand their gaming floor, adding space to reach prior gaming position levels under new distancing rules is an option worthy of consideration. The old rule was to fill every space with as many machines as possible because machines could achieve rapid payback with only limited occupancy and leaving space empty that could generate profits made little sense. Since the greater space will likely remain mandated to some degree, adding space rather than removing gaming positions is expected to be warranted for most facilities that physically can. The reason is similar to the reason for maximizing machine counts historically, the payback is rapid at achievable revenue volume. The graph on the following page shows the average win per gaming position necessary to achieve a two-year payback for added space given various levels of cost per square foot to add the space. The base assumptions are an average space per gaming position of 65 square-feet and an average marginal return on gaming win of 50 percent. While you can argue with any of the assumptions or adjust the preferable return window, the basic concept and pattern will remain the same. As the graph shows, the average daily win per position required to pay for even very expensive space needed to add a machine is well within the range of many Indian casinos. At lower space cost figures, say below $500 per square foot, the vast majority of Indian casinos could support adding space, provided, of course, that there is demand for the added gaming.

Expanding the gaming floor need not necessarily require constructing entirely new space. As capacity constraints and other post-pandemic shifts in operating environment affect space usage for ancillary facilities such as dining areas, function space and event centers, conversion of portions of those areas may also be warranted to meet the need for added gaming space. In fact, greater flexibility in design, to allow for faster adjustments in times of crisis or just to reflect changing demand patterns, should be a guidepost for any renovation or future expansion to casinos resorts.

GAMING SPACE RETURN REQUIREMENTS



ASSUMES: 65 S.F./POSITION & 50% MARGINAL PROFIT

The impact of capacity restrictions on food and beverage outlets and entertainment or function space and the need to shift emphasis to higher value core gamers to compensate for gaming capacity changes is likely to have a long-term effect on the proper scale of those components in Indian casino resorts to balance effectively with the gaming floor in the post-pandemic economy. The trend, seen in Las Vegas for years and growing in Indian country before the pandemic, of increasing revenue from non-gaming sources is likely to be reversed for at least the near term and potentially on a more permanent basis. Even the need for lodging and the type of lodging offered is expected to change to meet the new operating reality for the casino itself.

Aside from public spaces like the gaming floor, restaurants and banquet halls, back-of-house space needs are going to increase in the post-pandemic world. More space for lockers, changing areas, PPE equipment and supplies, employee dining and break rooms, inventory storage, staging areas and workspaces will be required to allow staff to do their work and prepare for entry into their shifts and exit into the outside world. While returns on back-of-house space cannot be justified in the same way as gaming space, there will be an increase in the practical minimum need to support worker efficiency, maintain employee health, retain staff and prevent new outbreaks. The new PPE-laden work environment is going to wear most heavily on line staff. Failure to address their comfort and safety concerns will reduce effectiveness and customer service.

The increased spacing on the gaming floor will ultimately drive a reevaluation of gaming machines and table games themselves. In an article we published in “Indian Gaming Magazine” entitled “Indian Gaming 2028,” we envisioned a future gaming floor with gaming stations rather than traditional slot machines. The gaming stations would have more space, captain’s chairs, more immersive video and sound experience and the ability to play multiple games, pay lines and denominations at the same seat. Spin-off benefits of such a model would be more time on machine per customer as they would not need to wander the floor to change games or find their favorites and foodservice could even come directly to them. New space and foodservice regulations may very well speed such a transition. Although the technology is not here yet, VIP chairs with greater comfort and legroom and controls on the seat arms to run the games were already being shown at ICE London earlier this year before the pandemic closed everything down.

Table games are more problematic with the new spacing requirements given the cost of labor involved. We anticipate an increase in the move, already underway, to electronic table games and stadium gaming due to both labor cost and floor spacing issues. For table games in particular, but for machines as well, reduced capacity per square foot will necessarily affect wagering minimums. While increased minimums will reduce some bread and butter low-end volume demand, the profitability of that demand will no longer support efforts to cater to it at the same level as before

Within this context, key recommendations and areas of focus include:

- Planning and design efforts to create permanent distancing and barriers that are attractive to the customer, durable and easy for staff to work with and maintain.
- Evaluation of the cost/benefit of additional space for gaming and of reallocation of space from areas no longer utilized to the same degree.
- Evaluation of the most efficient and cost-effective manner to increase back-of-house space to meet employee and inventory needs
- Creative engagement with machine and table game vendors to develop new gaming stations that compensate for space requirements by reducing the need for customers to leave their gaming position
- Creative engagement with regulators to develop new MICS and testing to adapt to new gaming station models
- Reevaluation of the balance between various casino resort components to ensure that each component is properly scaled to meet the needs of the new operating environment, including greater design flexibility to quickly adapt space use in the future
- Consideration of shifts to electronic and/or stadium gaming for table games

High Value Customers

The key to reducing the impact of capacity constraints on gaming revenue and even operating expenses to a certain degree will be an even sharper and more intensive focus on your high value patrons. The classic 20 percent of customers generating 80 percent of revenue rule of thumb actually trends closer to as much as 10 percent 90 percent in many casinos. As a result, players' club programs and other loyalty efforts strive to retain the highest value gamers, encourage them to spend more and encourage others to move up in value. At the highest levels, player loyalty is often done on a more personal level than simply players' club rewards. However, the personal and specialized nature of rewards for the highest value players will become even more critical and need to be even more focused and intensive in the post-pandemic environment.

In particular, given health and safety concerns, as well as personal comfort in the PPE era, private gaming areas and private gaming events for top players will be a useful tool to reward them, not only with prestige, but also with increased safety. The traditional "high limit" areas, open to any who want to meet the minimums, are not the same thing. Private gaming areas and private events would be more segregated from the gaming floor, open by invitation only, and with significantly enhanced seating, spacing and food and beverage service. Gaming concierges could meet high value gamers that have made advance arrangements, or respond to those that arrive unexpectedly, and guide them to their preferred game while arranging food service and anything else they need.

An offshoot of the private gaming for high value gamers could also be reserved private gaming areas for anyone willing to pay a premium or guarantee a minimum theoretical for their group. Again, they could know that the area is separate from the main floor, cleaned directly before and after their group, and served by dedicated staff with enhanced food and beverage offerings. Fees could be charged to rent the private space and then waived or refunded for meeting a minimum spend. The basic concept is like a luxury box at a stadium or a private room at a nightclub. One of the biggest issues facing gaming demand for Indian casinos is the direct correlation between the key demographic for gaming demand and the most at risk demographic for severe cases of COVID-19. The ability to demonstrate increased safety precautions for your high value customers in at-risk groups will be important.

On a broader basis, the focus on higher-value gamers through these measures and through raising minimum wagers at machines and tables is a refocusing from a high volume/low price model to a lower volume/premium price model. Like moving from a Holiday Inn to a Four Seasons model, where the money is made by getting more from each customer and catering only to those who can afford it, rather than catering to as many customers as possible, even if they only spend small amounts.

This does not mean that casinos reject lower end gamers. However, it means that marketing efforts and floor operations do not cater to or even protect their needs. If they are willing to pay and can afford it, they are as welcome as anyone. If not, their loss is less serious to the economic health of the casinos due to the reduction in overall capacity driven by spacing requirements. From a cost perspective, it actually costs less to serve 50 customers each spending $100 than to serve 100 customers each spending $50. The reason this was not done more often pre-pandemic is that it is usually possible to make more total revenue and total dollar profit by having a more expansive marketing and operating model, assuming the space and gaming position capacity can accommodate it. Since that will be less true going forward, a shift to the lower volume higher-spending customer base will be much more appropriate. Casinos that were capturing average wins in the $300 per position-day range in the past were already doing variations on this model by default. Now, a wider range of gaming operations will be doing the same thing. Essentially average win per visit will increase in importance, with average win per position decreasing.

Within this context, key recommendations and areas of focus include:

- Configuring of private gaming salons for exclusive use by high-value gamers or for rental by groups. Salons would have dedicated servers and premium food and beverage offerings. With advance reservations, specific games could be moved in and out until such time as multi-game stations are developed
- Reconfiguration of players' club benefits to focus even more intensively on higher-value gamers and reduce incentives to bottom level gamers

- Creation of “gaming concierge” staff for top tier customers to ensure that they have the games they want when they want them, guide them to the right locations personally when they arrive and cater to such other needs as they may have
- Adjustments to table minimums, and machine minimums to emphasize higher wagering levels per customer, even at the cost of some lower value patrons
- Creative engagement with regulators to develop/adjust regulations as needed to accomplish above goals.

Food and Beverage Service

New spacing requirement for food and beverage service combined with the impact of PPE use and spacing requirements on the gaming floor will have a profound impact on the food and beverage offering at Indian casinos. The ad hoc measures currently predominating, including limited or no foodservice, prepackaged items only and plastic or utensil free offerings are not sustainable on a long-term basis. While high-end restaurants can charge enough for their offerings to support a lower capacity model and bars can be reconfigured to allow for social distancing in some cases, the higher capacity eating and drinking venues are going to experience more significant impacts.

The love/hate relationship of operators with their buffets is being tipped permanently toward elimination. There is no tenable model for the traditional buffet in the post-pandemic world at this time. While some form of the old 50s and 60s era automats may make a return as an alternative, it is more likely that food courts and food halls will replace buffets for basic and faster food service options to maximize time on floor.

Even more valuable for time on floor and more feasible once spacing design becomes permanent and attractive, will be food and drinks ordered and served from machines and table seats. Models already exist in airports of tablets attached to seats or apps that allow personal phone usage to order a full menu range plus beverages for consumption right in the gate area while waiting for flights without ever having to leave the gate. There is no practical reason this could not be adapted for casino use if regulations can be adjusted to allow for the change and the added space on the gaming floor is properly designed to provide places to set and dispose of food and beverage. This will also alter the staffing models for foodservice and for the gaming floor, including a need for clearing of used items to a greater degree than current models.

Changes in food and beverage service will also affect some of the traditional marketing tools used by casinos, including free liquor and buffet coupons. While food and beverage-based marketing will continue in altered forms, there will be a need to shift to other reward and accommodation models and to more often and more consistently charge for food and beverage service. Fortunately, this is not inconsistent with the shift toward higher-value customers and away bargain hunters already discussed. Indeed, there may even be improvement in the profitability of some foodservice operations despite increased costs associated with PPE use and distancing requirements.

Even with at-machine ordering and increased dedicated space for food served on the floor, menus will need to continue the shift toward more utensil-free fare and sanitary coverings to increase consumer confidence. The evolution will come in the shift from pre-made to custom-made at time of order with coverings placed over the items immediately prior to service rather than early in the morning or the day before. The other aspect that will require further evolution will be the conflict between masks for customers and eating or drinking. The same problem is being faced with smoking. While we anticipate that mask requirements for all customers will be temporary rather than permanent, there will undoubtedly be a large percentage of customers that choose to wear masks whether required or not. This is actually not new. In Asia, mask wearing as a matter of course has long been common, including by casinos customers. The difference is that mandatory mask wearing causes more conflict when customers need to access their mouths. When it is not mandatory, they can remove and replace them at their convenience. Even now, some casinos that require customers to be masked make allowance for brief removal for drinking.

Within this context, key recommendations and areas of focus include:

- Design and operational planning for increased food and beverage service on the gaming floor, including necessary regulatory changes, ordering equipment, space to set food and drinks and shifts in staffing
- Reconfiguration of buffets and other underutilized restaurants and bars to food court or food hall concepts or other space needs
- Shifting of menu mixes to ease the transition to on-floor consumption but maintain quality and freshness
- Increases in outdoor dining and drinking areas where space and climate permit, including increased climate buffering efforts such as awnings, heaters, coolers/misters and windscreens
- Adjustments to marketing efforts and players' club rewards away from discounted food and beverage
- Premium food and beverage service for high-value customers and private gaming areas.
- Enhanced room service for casinos with hotels and increased packaged food vending and microwavable or kitchenette-preparable food

Other Gaming Prescriptions

While the three main areas discussed cover much of what will be needed for Indian casinos, some additional general recommendations for the Indian gaming industry are listed below:

- Increases in the non-smoking space in casinos or transition to smoke-free to reduce the need for customers to remove their masks
- Increased active pursuit of on-line gaming options and non-wagering game apps associated with individual casinos for play both on and off property to ensure that Indian gaming maintains parity with opportunities available to commercial casinos and state-sponsored gaming
- Reevaluation of the cost/benefit of large-scale entertainment and sporting events on site to reflect new distancing requirements and new gaming capacities
- Proactive review of all gaming regulations, both internally and with state and federal agencies, to ensure that any unnecessary barriers to the evolution of the gaming experience in the post-pandemic environment are removed or mitigated
- Exploration of air handling and air filtering enhancements that can be marketed as increasing employee and customer health safety
- Review and alteration as needed of customer and employee access points to aid in capacity control and public health monitoring

Tourism, Lodging & Other Leisure Industries

Other tourism and leisure industry development is suffering and will continue to suffer from the same restrictions to travel and operations affecting Indian casinos. Unfortunately, other tourist and leisure businesses do not have the same ability to maintain higher revenue volumes through high-value customers that casinos have. There is much less variation in the amount spent per customer from higher to lower-end demand in most businesses than in casinos. While some variation exists and luxury and higher price-point establishments and ventures are somewhat protected from capacity constraints, it is nowhere near the same degree. In addition, those same luxury-oriented facilities are more vulnerable to recessionary cuts in consumer spending, unless they cater to a truly insulated clientele or are in an area where the economy has been less affected.

For non-casino lodging, we expect a strong trend toward economy and discounted units and toward anything where guests are more segregated from each other. This includes RV parks and other camping, glamping, cabins, casitas or any other arrangement that has single units or small clusters of units rather than large, multi-unit buildings. For true hotels, a shift towards the lower end of the price-point spectrum is likely, combined with a strong increase in interest for kitchenettes or increased options for preparing and consuming food in the room rather than in public spaces. This not only means changing room furnishings and equipment, it also means changing and expanding the guest convenience retail offerings to give patrons greater in-room options. For those properties at higher price-points, increased rooms service options will be important and/or an increased ability to order delivery from local pizzerias and other restaurants for delivery and in-room consumption.

For other food and beverage service establishments, an obvious shift toward increasing the availability, comfort and weather protection of outdoor dining will be an important means of maintaining capacity during peak periods. As indoor capacity affects total revenue volume, means of lowering labor costs will need to be developed to reflect fewer customers. This will require more than simply hiring proportionally fewer servers. App or device ordering at tables, counter ordering with food brought to the table or even the long-dormant automat format are all likely to expand as answers to controlling labor costs. Automated payment or counter payment fit nicely with such models. We are already seeing a renewed interest in the drive-in/car-hop model. Unfortunately, the buffet will be as problematic outside of casinos as in them. Takeout and delivery are likely to remain important alternatives even in more rural areas where they are less common and certainly in urban and suburban areas.

One additional option that may receive more attention is the combination retail and foodservice into a single facility. Previously more novelty than sub segment, facilities like Braum's in Oklahoma will have greater flexibility to survive under dine-in restrictions and retail closures due to their combination of grocery sales, drive-thru takeout and dine-in options. While uncommon in this country, higher end version of such operations catering to steak and seafood clientele exist in Europe and Asia and could be developed here as well.

Other leisure businesses and tourist attractions vary in the constraints imposed depending upon the amount of inherent close contact required by the activity, the ability to consistently predict and guide that behavior and whether they are indoor or outdoor activities. Attractions and recreational businesses that are more outdoors than indoors or that do not require or lend themselves to close personal interaction (e.g. golf, singles tennis, zip lines) will be able to operate more freely and more along the lines of their pre-pandemic models, only needing to adjust for lines, ancillary activities and peak-period crowding. Other activities generally performed by groups of people in enclosed spaces (e.g. laser tag, movie theaters and other entertainment, indoor sports) are going to be far more challenging to operate and maintain profitability, even assuming a relaxation of spacing and capacity restrictions once the pandemic passes. This does not mean they cannot survive. However, it means that planning and operational adjustments will be more involved and revenue expectations will need to be lowered.

Many leisure activities fall somewhere in the middle, such as outdoor amusement facilities, outdoor pool and waterpark facilities, bowling, museums, miniature golf and others. For such businesses, restrictions are likely to be more varied depending upon the region in which they are located. All will face increased pressure on revenue and profitability to some degree. However, that degree is more likely to vary by jurisdiction. It is important to remember, however, that the ultimate arbiter of success from a public health perspective is not conformance with local rules, but avoidance of large, publicized outbreaks. As meatpacking plants have demonstrated, conforming to current guidance does not guarantee protection and uninterrupted operations.

Within this context, key recommendations and areas of focus include:

- Exploring options to expand RV and other camping sites, cabins, casitas, glamping or any other lodging options that stand independently or semi-independently
- Evaluation of renovation options to include kitchenettes or less extensive enhancements of in-room food preparation and consumption
- Enhanced room service and increased packaged food vending and microwavable or kitchenette-preparable food
- A shift in focus for lodging development toward lower price-point/lower service-point options such as economy extended stay
- Increases on outdoor dining and drinking areas where space and climate permit, including increased climate buffering efforts such as awnings, heaters, coolers/misters and windscreens
- Exploration of mixed/vertically integrated foodservice and retail models to provide more flexibility in the revenue stream
- Evaluation of the potential for increased outdoor or indoor/outdoor convertible activities and attractions
- Revision of staffing models through increased automation
- Where capacity cannot be maintained but demand is present, a shift upward in pricing to maximize revenue per patron, combined with increased amenities and upselling options
- Increased emphasis on reserved group bookings to allow for better staffing control and customer separation

Agriculture/Forestry/Fishing/Hunting

Some of the disruptions seen in the agriculture sector will self-correct as mitigation efforts are relaxed and as growers and processors adapt to the new demand models. While the correction process is likely to continue to exhibit short-term imbalance, those imbalances should be addressed by 2022. Nevertheless, the value of more diversified product offerings and customer lists has been strongly reinforced during the crisis and is likely to remain a new focus even after the pandemic passes.

For smallholders, diversification of sales portals is likely to incorporate an increased use of online sales to individuals or small businesses. However, this will also require and increased use of small batch processing, either at the farm or locally and increased emphasis on value-added agriculture. Diversification may also require increased rotation rather than an expansion in the variety of products produced at the same time. This, of course, carries its own risk of the wrong rotation at the wrong time. Any such shifts will require increased labor and some upfront costs as well, which carry their own added risk.

For larger-scale agricultural ventures at the tribal level for tribes with significant land, varying planting and grazing to a greater degree and identifying additional sales outlets will be easier, but will still carry increased costs. Exploring value-added agriculture and even agritourism ventures (e.g. dude ranches, pick your own, tasting rooms, etc.) can help mitigate those added costs by providing higher price point items for sale. Some tribes will have the ability to increase their vertical integration, moving from simply growing or raising, to taking what is grown and raised and processing it, packaging it and retailing it directly or supplying their own casino and other tourism foodservice operations. Examples already existed or were in development before the current crisis, such as the processing plant developed by the Quapaw for their own beef and buffalo herds or the range of processed and packaged food and beverage products being developed by the Navajo from their own agricultural production. Tribal wineries and breweries are other examples.

The tribal consortiums and tribe-to-tribe purchasing already discussed will be important aspects of the recovery of tribal agriculture. Tribes supplying or purchasing from each other, sharing best practices and forming cooperative ventures in the same manner as traditional agricultural cooperatives can provide a means of not only recovering lost business volume, but generating new growth. Because individual tribal farmers comprise such an important part of tribal agriculture, any growth in the sector will have disproportionately higher positive impacts on those individual members, in the same way that the current crisis has affected them even more severely.

Other subsegments of the sector include forestry, fishing and hunting. Fishing and hunting have crossover tourism impacts. Both are examples of tourism activities that can maintain close to normal operations even with increased social distancing requirements. When conducted by tribal members or by tribal enterprises, they also have the potential to produce higher price-point, value added products for retail sale and service in dining establishments, not to mention putting food on the tables of individual members. Steps to responsibly increase the intensity of public and private hunting and fishing activities will represent potential growth sectors, provided pressure on the ecosystem is carefully monitored. For forestry, the movement away from reusable bags and packaging coupled with the decline in societal approval for plastic products offer opportunities for increased pulp sales overtime. In the short-term, however, downward pressure will still be dominant due to the continued effects of mitigation efforts on retail and food service. Timber for construction and other uses is also likely to remain under downward pressure as already discussed. This is nothing new for the industry. The challenge is for tribes that rely upon forestry revenue to weather the current downward cycle while still maintaining long-term capacity to renew active production once the tide turns.

Within this context, key recommendations and areas of focus include:

- Diversification of production through rotation or planting/grazing of a wider variety of products, particularly specialty products with Native connections of other high perceived-value elements
- Diversification of sales outlets, including multiple processors, direct retail and online sales
- Development of processing, packaging and distribution capabilities to produce value-added and vertically integrated agricultural ventures
- Microlending, guaranteed purchasing and other small-scale support for the efforts of individual members to diversify or add value to their own production
- Negotiation of tribal agricultural consortiums and tribe-to-tribe purchasing agreements to help seed new development initiatives
- Increased mandates to purchase from within tribes or tribe-to-tribe for foodservice supply and tribal grocery retail
- Exploration of recyclable paper and carboard packaging opportunities for tribal timber production where suitable
- Expansion of hunting and fishing activities for both tourists and tribal members to the extent supportable by the eco-system. This can be couple with the increase in RV camping and glamping initiatives already described

Mining & Extraction

Boom and bust is the nature of the mining and extraction sector and always has been. The current environment is but the latest example. The extreme decline is already being mitigated to some degree. Nevertheless, demand for most mining and extraction products will remain depressed in the U.S. for the next two years, as already discussed. There is little to be done to mitigate the effects beyond what is traditionally done in the sector, layoffs, temporary shuttering of facilities, production cuts and patience. One aspect worthy of more intensive focus is the same concept of tribal consortiums and tribe-to-tribe purchasing mentioned previously. The concepts are already in place for oil and gas, but only in their infancy. Expanded efforts to develop tribal networks for oil and gas and for other mined and extracted products should be among the major foci of the cooperative meetings between various tribal associations and tribes themselves advocated earlier in this report. Beyond such efforts, we have no significant additional prescriptions to offer, other than the same resigned patience always exhibited in the sector during difficult times. Our forecast shows that by 2023, the sector should be well on its way to restoration of profitable economic activity.

Construction

With its lagged pattern of decline and recovery, the construction sector is carrying on at higher levels during these early days of the economic crisis but will suffer its own decline in relatively short order and take longer to return to previous levels. The primary means of mitigating the decline and speeding the recovery will be for tribal leadership to maximize their own internal construction projects for government buildings, infrastructure and other needs. The aforementioned need for renovation and even possible expansion at Indian casinos will aid to a degree. However, lobbying for and pursuit of non-tribal government funding through grants and loans that are expected to be part of additional stimulus packages will be critical to maximizing the amount of construction tribes can direct to their own ventures until general economic conditions improve. The lobbying aspect will require the active cooperative efforts of tribal organizations and tribe-to-tribe initiatives previously discussed. To the extent that such efforts produce construction opportunities, TERO and other AIAN-centered hiring and purchasing will aid in maximizing the benefits to the tribal construction sector.

In the meantime and in parallel, refocusing construction efforts on smaller-scale projects, repairs and renovations will help maintain work and cash flow and the integrity of construction teams to some degree. The volume produced by such efforts is never sufficient to compensate for the loss of larger projects. It is, however, a time-tested means of surviving difficult times in the construction sector.

One other potential source of sustaining demand and recovery could be a need for increased manufacturing capacity on tribal lands to meet new supply diversification and manufacturing repatriation efforts discussed under the manufacturing sector below. To the extent such efforts bear fruit, which the current environment certainly supports, there may be new construction projects available that would not otherwise have been present to help close the gap.

Within this context, key recommendations and areas of focus include:

- Active lobbying and pursuit of grants and low-interest loan programs for infrastructure and other construction projects from non-tribal sources by tribal associations and individual tribes alone or in consortiums
- Identification of any repair or renovation projects for existing tribal businesses and infrastructure to maintain minimal operating levels for construction teams
- Active pursuit of larger-scale renovation and expansion projects for Indian casinos as previously discussed
- Increased tribe-to-tribe and AIAN-owned construction sourcing for any projects available
- Documentation of potential construction labor and other economic benefits from new manufacturing or other projects to support loan and grant applications.

Manufacturing

As already noted, the manufacturing sector is extremely varied, meaning its declines and recovery will vary as well. Sectors enjoying sudden surges in demand are likely to moderate to more typical levels as the pandemic and associated mitigation efforts recede. However, some products, such as PPE, are likely to retain a higher level of demand on an ongoing basis. Products manufactured for the foodservice industry will rebound automatically as the industry reopens, although lingering softness in demand due to permanent restaurant closures and permanent capacity changes will slow the recovery. Products manufactured for the construction sector and for the mining and extraction sector will take longer to see demand recover as their customers will still be awaiting a return of their own demand. The same will be true for products manufactured for the retail sector.

The main potential opportunity that we see for tribal manufacturing is the combination of supply chain diversification and manufacturing repatriation that we expect to occur during the recovery and in the post-pandemic economy. This should more than counterbalance any loss of export business, except perhaps for individual tribal manufacturing ventures that focus more heavily on export markets. Through active lobbying efforts, creation of tribal consortiums and creative initiatives by individual tribes, we believe the manufacturing sector in tribal economies has the opportunity to grow beyond prior levels as recovery moves into the next economic growth cycle.

Tribes have the land base, employment base (with necessary training), legal and regulatory structure, strategic locations and even free capital to become a major player in new manufacturing initiatives designed to protect the economy from the kinds of disruptions currently occurring whenever the next crisis occurs, not to mention a return to U.S. based production. Tribes will not be the only players or even the largest and not all tribes will participate evenly. However, many tribes, by working together, can generate significant new economic opportunities by leveraging their assets and the compelling need for economic opportunity to attract government programs and industry initiatives designed to reconfigure American manufacturing in a post-pandemic world. The degree of success will depend upon the amount of effort, creativity and cooperation tribes and tribal associations bring to the issue.

Aside from the new manufacturing opportunities referenced in the preceding paragraph, the vertical integration and value-added concepts for agriculture already discussed and the need for more durable and purpose-built sanitation and separation equipment for casinos provide tribal manufacturing with other markets to target for additional manufacturing development. In both cases, tribes have direct control over end-user demand to some degree and can leverage that control into pre-qualified production targets for new or refocused production lines. Where the expertise and equipment are not already present, partnerships with existing private businesses can fill the gap. This is not unlike the development of Indian gaming itself in tis early days. Like that model, tribes can transition over time from greater outside support to full independence as their capabilities and expertise grow.

Within this context, key recommendations and areas of focus include:

- Strategic planning and analysis of tribal legal, land, labor and capital advantages to inform and justify new manufacturing initiatives and lobbying efforts at the association, inter-tribal and individual tribal levels
- Coordination of lobbying and public messaging between tribal associations with a focus on tribal manufacturing development
- Active lobbying and pursuit of grants and low-interest loan programs for the diversification of supply and repatriation of manufacturing capacity through multi-tribe and tribal/non-tribal consortiums that marry land and labor with capital and expertise
- Further strengthening of inter-tribal purchasing to support increased manufacturing production
- Exploration of vertical integration and value-added manufacturing opportunities by agricultural tribes, either alone or in partnership
- Active diversification of supply and sales outlets by existing tribal manufacturing ventures to protect against future disruptions with a particular focus on other tribal sources and outlets
- Increased automation of tribal manufacturing, particularly of new ventures to protect output capacity in case of new public health or other emergencies
- Research into product improvement for PPE and other new or existing supply needs for Indian gaming to increase the proportion supplied by tribal vendors

Wholesale Trade

Wholesale trade recovery in tribal economies will mirror patterns in the manufacturing sector that feeds it and the retail sector that buys from it. Accordingly, diversification of supply chain and repatriation of manufacturing initiatives may provide new opportunities for tribal wholesalers to expand their own offerings and move into new markets. It will certainly drive tribal wholesalers to pursue their own diversification efforts for the same reasons as the general economy. Those opportunities will be balanced at the retail level by the lingering effects of decreased consumer spending, decreased consumer confidence and reduced retail sales capacity due to lingering public health restrictions. For wholesalers supplying non-brick and mortar retail, that will be somewhat less of a problem but it will not be entirely removed.

Wholesalers will also face their own issues with employee health protection, work flow efficiency and probable increased inventory space needs. Between those factors and the inherent inefficiencies of more diversified supply and customer lists, operating costs will rise and will both squeeze margins and put pressure on pricing. Fortunately, tribal wholesalers will not be unique in facing these pressures. However, most will not have the volume available to the largest non-tribal wholesalers over which to spread their increased costs. Tribal wholesale management will need particularly careful planning and monitoring of operations to make the necessary adaptations to achieve sufficient profits in the challenging post-pandemic economy.

Within this context, key recommendations and areas of focus include:

- Active diversification of supply chain and sales outlets to mitigate current and future risk of disruptions to key vendors or buyers
- Exploration of horizontal integration and product diversification to cater to increased demand for multiple vendors and multiple product lines as the recovery takes hold
- Increased and sustained communication with tribal leadership and other tribal entities to explore supply or sales opportunities and ensure awareness of product lines available
- Participation in planning and lobbying initiatives with tribal manufacturers to expand products manufactured and sold from tribal lands
- Exploration of automation opportunities to protect output capacity in the event of public health disruptions
- Further development of online ordering and shipping capabilities to expand the pool of sales outlets
- Monitoring of internal costs in relation to market pricing to maximize margins across product lines

Retail Trade

The post-pandemic retail environment will require increased automation, increased online presence, careful pricing, diversification of suppliers and sales outlets, and changes to the retail mix to better protect against closures where possible. A common complaint amongst many retailers during various shut-down orders has been the discrepancy between small specialty retail and large multi-product retail such as Target or Walmart. The difference was due to the need to maintain access to groceries, pharmaceuticals and many other daily-life products deemed essential to supporting the general population while they were forced to remain at home. Where any retailer can practically and legitimately add products to their sales mix deemed essential, they will have an obvious advantage in future shut-downs if/when they occur. However, that is only an option where demand and selling space can support the shift.

The next most common problem, at least for retailers allowed to remain open or those that continued business online, was the unavailability of products for sale due to supply chain disruptions. Diversification of vendors and increased par stocking will be needed to protect against such problems going forward. However, both of these will result in at least some increase in product costs. When combined with decreased customer capacity due to new spacing requirements, there will almost certainly be a need to increase prices to protect narrow operating margins. Unfortunately, price increases can only occur if the market will bear them. The ability to trade-off price sensitive demand for higher-end demand is much lower in the retail sector than in gaming.

In considering pricing models and product mix, careful consideration of the type of retail being offered and the type of customer being served will be key. There are actually several different types of retail that can be offered that coincide with the different reasons why customers might choose to buy. Convenience retail caters to the immediate needs of patrons for items they forgot, ran out of, or consume quickly. Impulse retail caters to many of the same shoppers but with items that they want rather than need, and that often have higher markups. Souvenir retail caters to shoppers seeking to find a tangible item to enhance their memories of their visit and to show others where they have been. Indulgence retail provides luxury items to patrons wanting to do some extra celebrating. General retail caters to the on-going regular needs of patrons whether on a weekly, monthly, yearly, or longer-term basis. Destination retail can incorporate one or more of the other types described, but has the unique characteristic of offering patrons from a wider area products that are highly desirable, usually specialized, and not readily available from other sources, at least not with the same price, quality, selection, or atmosphere.

In general terms, indulgence and destination retail have more flexibility in pricing, as do some souvenir and impulse retail products. This is especially true in retail outlets catering to tourists, once the tourism segment returns. For retailers focused on these areas, upward adjustments to pricing to cover increased costs and lost volume may be more feasible. This can even be true for simple commodities. An example would be the travel plazas located along interstate interchanges. Often, they can charge more for their gasoline and other items than the same operations in the same community that are not on the interstate and cater only to local demand.

For almost any retailer, with the possible exception of convenience stores and travel plazas, an increased online presence with delivery or shipping options, or at least preorder and pickup, will be a necessity in the post-pandemic retail world. The dominance of Amazon and a few other large retailers does not preclude smaller operators from participating in online retail sales. Smaller operators may be at a disadvantage in terms of shipping costs and visibility, but these are surmountable and do not outweigh the increased sales capacity gained.

Within this context, key recommendations and areas of focus include:

- Aggressive efforts to increase online presence and ordering and shipping/delivery capabilities
- Diversification of retail mix where demand and space allow to include sufficient essential products to allow operations to remain open in future shut downs
- Diversification of suppliers and increased inventory space to protect against product shortages
- Analysis of product pricing taking into consideration market trends, the characteristics of your demand base and the increased operating costs of the post-pandemic environment
- Increased automation in cashiering, customer service and other areas where possible to help control labor costs with lower volumes
- Reevaluation of space needs and associated costs for front-of-house versus back-of-house in light of new spacing requirements and inventory needs

Transportation & Warehousing

The massive problems in the passenger transportation subsector do not directly affect tribal economies except in as much as tourist demand in some areas depends upon air transport. For the vast majority of tribes, demand presents by personal vehicle and few, if any, tribes operate their own passenger transport businesses, except to bring gaming demand to their casinos. For that component, lower fuel cost will be a boon.

The primary impact of this sector will be the potential for increased freight and warehousing demand for tribal operators involved in those businesses. Between increases in online shopping, diversification of the supply chain and increased inventory space needs, demand for freight transport and warehousing is forecast to grow, as discussed earlier. As with manufacturing, some tribes are strategically located and can offer ample land and potentially lower taxes to warehouse and freight operators or develop them in their own right. To the extent that the same tribes do not have capital to develop or expand such ventures, working with other tribes to obtain financing or joint venture could solve the problem. Any tribe already active in warehousing and freight transport or actively pursuing increased manufacturing opportunities as described earlier should also be looking to expand their network of shippers and delivery destinations over the next two years to boost their presence in the sector for the long haul.

Other Industry Sectors

The needs and opportunities of the various other industry sectors not profiled independently in this analysis are too great for a comprehensive discussion or listing of recommendations for recovery and renewed growth. However, a few prescriptions that we consider useful are presented below:

- Discussions with utility companies to explore additional, environmentally friendly generation and transmission on and through tribal lands to boost local capabilities and generate new construction demand
- Active pursuit of enhanced internet and cellular connectivity for tribal government, residents and businesses
- Direct negotiations with lenders and financial institutions to adjust payment terms and increase lines of credit to support ongoing operations during the crisis and new growth and recovery efforts afterwards
- Exploration of funds availability for single and multi-family housing development for tribal members to support construction businesses and improve tribal living conditions.
- Exploration of funds availability for educational repair and renovation to support construction businesses and improve tribal living conditions.
- Analysis of in-home impediments to telehealth and other remote health initiatives and rectification of the impediments, including lobbying for and pursuing grants and loans to improve health care effectiveness for remote and elderly tribal members
- Evaluation of other cost savings and possible wage cuts to preserve tribal government jobs rather than resorting to layoffs during the crisis
- Pursuit of multiple tribal member focus groups during and after the crisis to explore ideas for dealing with the downturn and increasing opportunities during and after recovery

MONITORING FUTURE HEALTH

GENERAL

As we have noted, we are still early in the course of the pandemic and even earlier in the course of the economic crisis spawned by the disease itself and by efforts to contain it. Every statistical measure available on the disease, as well as on the economy, has flaws in its timeliness, accuracy and breadth of applicability. History is informative but not necessarily indicative. Any data or conclusion regarding the course of events should be appended with the words “so far.” While it is possible, as we also noted, to make useful forecasts about likely future outcomes even with limited data of questionable reliability and it is absolutely necessary to make the attempt to guide decision-making and planning, the potential for unexpected shifts and relevant new information must be recognized. In addition, national trends and averages will not hold true for every tribe in every location at precisely the same time. Therefore, it is useful to consider what factors and indicators should be monitored to determine if the course of the disease and the economic crisis are conforming to the forecasts in this report or are varying to a significant degree in your particular area.

COVID-19 AND CIVIC RESPONSE

The actual course of the pandemic and of civic responses to mitigate its effects have the greatest potential to vary either locally or nationally from the overall average assumptions we have described. Variation can take many forms. A second or third wave of surges in infections could not materialize. Death rates could fall significantly from the trends so far as treatment methods improve. A vaccine could come earlier than expected. Continued mitigation efforts to fight the pandemic could even reduce the severity of the annual influenza outbreak as people take far more care with disease spread than in a normal year. Any or all of these things could occur locally or nationally to greatly reduce the severity of the pandemic in your area or across the country.

Of course, the opposite can also occur. Surges could come sooner and be more severe. Current plateaus and modest declines could stabilize without any further reductions, keeping infection rates and deaths higher throughout the course of the pandemic. With the unmistakable momentum toward reopening the economy, new outbreaks could reach exponential crisis proportions before governments, businesses and individuals respond, especially given election-year politics and frustration with the first round of mitigation efforts. If mitigation efforts are relaxed too far and not reintroduced in time, the annual influenza outbreak could combine with a COVID-19 surge to completely overwhelm the healthcare system. As we have mentioned, even without government-mandated business closures, the economy can be effectively shut down due to the severity of an outbreak surge alone. If that were to happen during the fall-winter school year and Christmas shopping season, the economic effects would be even greater than those observed “so far.”

There are other unknowns as well. Natural disasters from annual hurricane and wildfire seasons and civil unrest from racial tensions could easily result in flareups of the virus due to forced close quarters for large groups of people. When they return to their own homes and daily life, they can spread the disease as quickly as returning ski vacationers and business travelers did in this first round.

If our assumptions regarding the length of the pandemic or the numbers of cases and deaths are off by more than 20 percent in either direction, our economic forecasts could be materially affected. On a local level, if the per capita infection rate and death rate of your reservation, counties or state vary by more than 30 percent from the national averages, your own experience would likely be correspondingly more or less severe.

In order to monitor actual conditions locally and nationally, areas to watch include:

- National daily and cumulative infection totals and deaths
- State/county daily and cumulative infection totals and deaths
- Daily infection totals and deaths in areas that reduce restrictions earlier, beginning three to four weeks after the change and for eight weeks thereafter (too soon to tell)
- Monitoring of daily infection totals and deaths in China and in Western Europe for the remainder of this year (so far so good)
- Monitoring of public statements, reports, orders and guidance issued by your state and local authorities, of the majority public reaction to them and of the majority public reaction to similar guidance or orders by other governmental leaders in counties and states where leadership is affiliated with the same party as that in your area
- Monitoring of significant outbreak clusters at major businesses in your local area or at comparable businesses in other areas (e.g. meatpacking plants, nursing homes, etc.)
- Careful monitoring as much as possible of your own employees and customers.

Where monitoring of the factors listed above shows evidence of new surges in infection or of increased public pressure to tighten or weaken restrictions, it will be reasonable to anticipate and plan for similar shifts in your own area. The same is true in the opposite direction. If China, Europe and parts of the country with fewer restrictions do not see new surges in infections, there is reason to hope that the same will be true for your location as well. If any outbreak at an important local business is identified and mitigated quickly with fewer infections, there is reason to anticipate the impact will pass more quickly. In general, if unusual or unexpected trends are observed, we would encourage patience and further observation of any better than expected trends prior to action, but quick action to deal with any worse than expected trends due to the relative cost-benefit of needed mitigation.

GENERAL ECONOMIC CONDITIONS

Aside from the course of the disease itself and the speed with which governments impose or remove restrictions, there are several factors that can be monitored in the national and international economy to watch for unexpected shifts or new information that could alter future results form the levels forecast in this report. First and foremost, stimulus efforts by the Federal Reserve and by the Congress can affect economic patterns for good or ill. The Federal Reserve has been clear to date that they plan to hold a strong bias for continued monetary stimulus for this year, next year and perhaps most or all of 2022 as well. Since they are more insulated from political pressures and under the control of a limited number of individuals, they are more likely to be able to maintain discipline in following their plan over time, unless circumstances in the general economy dictate a shift in response.

Congress and the executive branch have neither of those advantages. In theory, that can make them more responsive to public needs. In reality, it has meant in recent years that political advantage can be placed ahead of good policy and lack of compromise can stall needed action. There is more bipartisan effort in regard to the current crisis than has been seen in years, a good but fragile indicator. With an election coming while the pandemic is still very much in place, the possibility exists for that bipartisan approach to be jettisoned before or after the election depending upon polling numbers and election results. Particularly volatile times will be from July through October leading up to the vote, and then from mid-November through early January during the lame-duck period before the newly elected balance of power, whatever that may be, takes office. Even though both parties need to be seen taking action to help the average voter, the views of their own voters on what action is appropriate vary considerably and may slow or shrink the size of any further stimulus efforts.

Aside from direct government action, the decisions of leaders in various industry sectors can easily sway the direction of the economy to either struggle more severely or recover more quickly than forecast in this report. While local businesses in any particular area are likely to display some level of uniformity in their level of caution or lack thereof, national and multi-national corporate leaders make decisions with broad reach but still carry the prejudices and tendencies for more or less caution of the local areas where they have their headquarters. Thus, major corporations headquartered in relatively laissez-faire areas in their response to the pandemic are likely to react in a similar manner for all of their operations, even those in places where the effects of the pandemic have been more severe or where local leadership, employees and customers are more cautious. The same is true in reverse for companies headquartered in areas where the default mode is more cautious. However, impersonal they may seem and act, major corporations are still run by people, people that have the same variations in temperament and outlook that anyone else may have. While their education, training and experience may allow them to look beyond their own tendencies to some degree, they do not remove them entirely.

Finally, the reaction of the general public to the ongoing pandemic and the continued economic crisis will ultimately determine the speed with which things change for better or worse. All of the government stimulus, corporate planning and clever marketing in the world can be overwhelmed by a groundswell in consumer sentiment, positive or negative. That groundswell can be shockingly and frustratingly impervious to efforts to alter it by leaders in government and business if it takes on a life of its own. The recent outpouring of racial tension and calls for reform is a perfect example. In regard to the pandemic and the economy, the right or wrong flash point at the right or wrong time could spur what is effectively a public chain reaction that cannot be easily controlled.

In order to monitor actual conditions locally and nationally, areas to watch include:

- Whether or not an additional stimulus package is passed by Congress and signed by the President prior to the end of September and the magnitude and characteristics of the package
- The outcome of the national and of state elections in terms of divided government, removal or reelection of incumbents and whatever “mandate” is widely considered to have been given to those elected
- Momentum during the lame-duck period for the current elected officials to lock in or out changes by their replacements if the new government will have significant changes in power sharing
- Customer traffic and spending trends four to eight weeks after the resumption of limited or full-scale business
- The status of international trade agreements and temporary pandemic-related restrictions
- Discipline amongst oil producing nations in controlling output to support costs
- The degree to which the financial community responds to increased risk and decreased debt repayment issues by tightening qualifications for lending
- The speed and proportion of rehiring by employers as business restrictions are eased
- The degree to which lawsuits over infections, employee safety and insurance distribution spread and become publicized or are preempted
- Back-to-school, Black Friday and Cyber Monday sales figures
- The speed with which hazard-pay increases for essential workers are rolled back and the amount of employee, public and governmental resistance to the rollbacks
- Unemployment rates, major employer closures and local government budget cuts in your immediate area
- Vacation travel and lodging industry performance nationally and in your area from July through October

There are likely to be contradictions in the direction that each of these indicators suggest that the economy is moving for better or worse. There will certainly be variation in the experiences of different parts of the country and of different industry sectors. The key in following the suggested indicators is to look for particularly strong and sustained shifts from the expected direction. Many of the shifts that will be observed will be shorter-term and less substantial and may even fluctuate back and forth. This "noise" can obscure the real pattern or cause an overreaction when staying the course remains warranted. The same "so far" attitude that needs to be employed with current information should be applied toward these various indicators in coming months.

TRIBAL ECONOMIES

Federal government actions will also play an outsized role in the health of tribal economies and the speed with which they recover. Additional stimulus for tribes is every bit as important as stimulus for other parts of the national economy, if not more so. A key indicator will be the amount of directed or accessible stimulus funds in any new package targeted toward Indian country. Beyond one-off stimulus efforts, the degree to which regular funding for Indian health, Indian education, and other BIA, Interior, Agriculture and Energy department funding for tribal initiatives is sustained, increased or reduced will either support and enhance or hinder economic recovery in Indian country. There is real reason for concern for the maintenance of regular funding channels and levels, given anticipated declines in tax revenue and massive increases in deficit levels driven by the crisis. Funding levels in the annual federal budget in the 2021 and 2022 fiscal year will be key battle grounds and indicators for tribal economies. This is why coordinated messaging amongst various tribal associations and individual tribes is so important. In particular, the application to Indian country of the same stimulus first, deficit second approach being applied elsewhere needs to be hammered home continuously during the next two years.

Aside from federal budgetary matters, the anticipated need for state governments to bolster their tax revenue will put pressure on compact renewals and even compacts in the middle of their terms, as well as on efforts to expand commercial and online gaming. While the integrity of compacts and tribal sovereignty needs to be protected, efforts need to extend beyond that to parity and partnership in any new initiatives being considered by individual states. At least initially, a proactive approach in states where Indian gaming is well established would seem warranted to explore ways tribes and the state can partner in new ways to their mutual benefit. If, however, states remain or become antagonistic, retaining tribal unity is by far the most important matter.

For other federal and state economic initiatives, whether to stimulate the economy or to support some of the diversification in supply chains and repatriation of manufacturing previously discussed, tribes and tribal associations need to emphasize the degree to which boosts to their economic potential disproportionately benefit politically important rural non-tribal economies as well. New economic development on tribal lands can create job growth and economic spin-off in areas surrounding reservations in other industrial sectors in the same way that Indian gaming has boosted primarily rural non-tribal communities. If argued consistently, persistently and in a coordinated manner, it should make a compelling message, especially if it is also done in coordination with surrounding counties and cities.

Because of the importance of tourism to tribal economies in terms of gaming and various other business ventures, resumption of tourism will be critical to recovery for tribes. Careful monitoring of local and regional tourism indicators, along with active support for new tourism marketing initiatives embracing post-pandemic operating themes, will enable individual tribes to maximize their own recovery potential and react quickly to unforeseen shifts in either direction. This includes monitoring national driving vacation statistics, eventually air travel statistics, the performance of area lodging, major attraction attendance figures and ongoing restrictions, the resumption of annual festivals and regular sporting events, coordination with area tourism boards and various other steps to make real-time adjustments in planning, staffing and marketing for tribal tourist businesses.

We have recommended a wide variety of steps for tribes across their various industry sectors to aid in the recovery of each sector. At the national level, monitoring of domestic and international demand and supply for relevant products and monitoring of pricing trends on commodities markets and through trade industry data will help guide all tribes in the application of various recommendations in this report and their own initiatives. At the local level, significant closings or openings, either from pandemic concerns or resulting economic pressure will determine the degree to which each tribe’s individual businesses will vary in recovery speed and depth from Indian country as a whole. Local and state attitudes, restrictions, and actual case loads will all factor into differences between the experience of each tribe in each sector and national averages for Indian country.

Tribes have generally shown caution equal to or greater than that of their surrounding region in their reaction to the pandemic thus far. We believe a similar approach will continue to serve tribal economies well through the remainder of the current crisis and during the recovery period to follow. Most of all, we believe that increased and formalized coordination efforts between tribal associations and individual tribes to promote unity in messaging and posture, wherever possible, will be the key to sustaining tribal economies through the crisis and moving them to new periods of growth after the recovery is complete.

In order to monitor actual conditions locally and nationally, areas to watch include:

- Indian-specific elements of any new stimulus legislation
- Funding levels for all major components of the federal budget affecting Indian country in the next three years
- Implications of national and statewide election results for hot button political issues related to tribes and general economic policy
- Success in completing the 2020 census accurately, particularly tribal member participation
- Formal actions at the federal level to encourage domestic production, repatriate manufacturing and diversify supply chains
- Auto travel trends and local area lodging industry performance
- Local personal and business bankruptcy rates
- Local employment trends, including large employer closures or rehiring
- Plans for resumption of local and regional festivals and sporting events
- Commodity prices and volumes in agriculture and mining sectors, as well as any government support initiatives
- Legislation affecting tribal interests during lame-duck sessions
- Unemployment rates, major employer closures and local government budget cuts in your immediate area
- Vacation travel and lodging industry performance nationally and in your area from July through October
- Resumption of gaming activity and response to enhanced marketing initiatives by high value gamers
- Average win per visit in casinos
- Outbreaks in major employers and in senior living facilities in the local area
- Public comments and draft legislative initiatives at the state level to boost state tax revenue that could adversely affect tribal interests
- Any initiatives at the national or state level pertaining to online gaming

Tribes located in areas with hot spots, higher unemployment rates, dependency on oil and non-grain farming or ethanol, reliance on international travel or air travel, higher personal and/or business bankruptcy rates or slower resumption of major festivals and sporting events are likely to see longer and slower recovery periods than the overall averages forecast in this report. The converse is also true. However, as with the discussion of general economic conditions earlier in this section, it will be important to distinguish between the noise of short-term fluctuations and the presence of actual, substantial and sustained variation from predicted results.

SUMMARY

Even if all goes as forecast, tribal economies are facing continued pressure throughout 2020 with a gradual and somewhat uneven recovery over the next two years. Eventually, however, recovery and renewed growth will occur. We recognize and would gladly welcome that for Indian country as a whole and certainly for individual tribes and regions, declines may prove to be less severe and/or less prolonged than predicted in this report. We also recognize the possibility of and devoutly hope to avoid declines that are more severe or longer lasting due to worse than assumed effects from the pandemic itself, government action or inaction or any of a number of factors discussed in this section. By calling out areas of concern or vulnerability to fluctuations, we hope to equip tribes with the ability to monitor their own conditions as well as national trends to make necessary adjustments as the real effects of the pandemic and associated mitigation efforts become apparent.

ADDENDUM:

PROFILE OF

Klas Robinson QED
HOSPITALITY CONSULTING

OUR COMPANY

KlasRobinson Q.E.D. provides market research, financial feasibility analysis, economic impact analysis, litigation support and other development consulting to such diverse types of industries and businesses as:

- **Casinos, Bingo Halls and Racetracks**
- **Gas Stations, Truck Stops and Convenience Stores**
- **Hotels and Resorts**
- **Retail & Mixed-Use Developments**
- **Convention Centers and Exhibit Halls**
- **Golf Courses**
- **RV Parks and Campgrounds**
- **Bowling Alleys**
- **Restaurants and Nightclubs**
- **Theaters and Attractions**
- **Value –Added Agriculture and Agri-Tourism**
- **Housing & Assisted Living**

KlasRobinson Q.E.D. specializes in analyzing the financial feasibility of unique real estate projects and business ventures that by location, concept or market position do not conform to standard and easily classified development categories. Our comprehensive approach ensures accountability through the direct, absolute and exclusive involvement of the principals in each project, including meetings, market research, analysis, report writing and presentation. KlasRobinson Q.E.D. has a unique specialty in Indian gaming and economic development on tribal lands. The principals of KlasRobinson Q.E.D. have worked with 250 tribes throughout the United States and Canada.

We perform comprehensive market research as a foundation for all of our feasibility studies, focusing on key demographic characteristics, tourism patterns, transportation infrastructure and other elements affecting the ability of a project to attract demand. We work in concert with the project team to develop facility recommendations that match the identified needs of the market and the goals of the project developers.

Due to our extensive experience with a broad array of projects and industries, we need not rely solely on published information in projecting future financial performance. Our projections are based upon years of experience working with a wide variety of projects that has given us access to operating and market data not available to the general public. Our analyses of direct, indirect and induced economic impact provide not merely facts and figures, but the context necessary to make them real and understandable to the reader.

Feasibility studies, business plans and other expert counseling provided by the principals of KlasRobinson Q.E.D. have been used to successfully attract $20.0 billion in financing and investment from bank financing, capital leases, private placements, registered securities and IPO's.