



Research and Discussion on the Economic Recovery of Macau in the Post-Pandemic Context

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Abstract

The impact of the COVID-19 pandemic on the economy is undoubtedly catastrophic, and its impact on the world is immeasurable. Now that the pandemic has passed, the issues it left behind and the lessons it provided are worth discussing and summarizing. No one hopes for such a global disaster to recur, but if humanity is unfortunately faced with such a crisis again, how should we effectively respond to similar crises? How can we quickly and effectively restore economic order after a disaster? To this end, our team hopes to summarize an effective post-crisis handling plan for Macau through this study, to eliminate the impact of the crisis on the economy as soon as possible. Considering the particularity of Macau's industrial structure, our team combines the characteristics of the gaming and tourism industries, searches for literature and reports, organizes and interprets data to derive feasible plans. At the same time, we learn from foreign regions with similar industrial structure characteristics and advanced solutions, using objective data and foreign advanced region cases to summarize feasible plans for post-crisis handling in Macau. This paper will point out three issues that slow down the economic recovery of Macau after the pandemic and provide solutions for each issue.

1. Introduction

1.1 Background

1.1.1 The Impact of the Pandemic on Macau's Tourism Industry

Gross domestic product per capita (current prices)

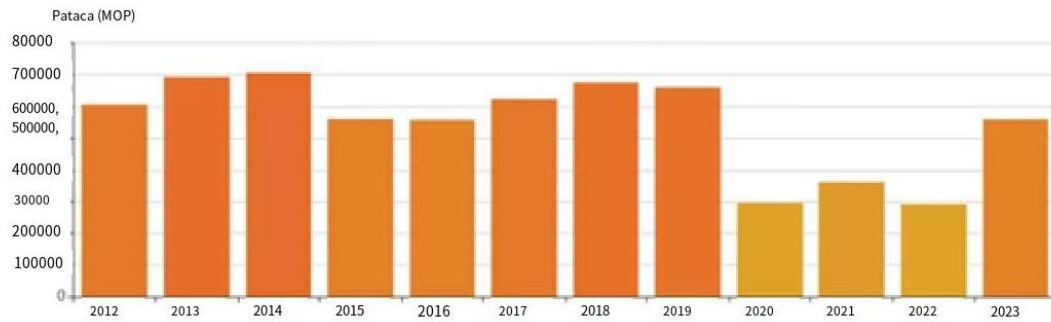


Figure 1

From Figure 1, we can see that Macau's Gross Domestic Product (GDP) per capita plummeted from 2020, less than half of the GDP per capita in 2019. Tourism and gaming are the core industries of Macau, and due to the impact of the pandemic, the number of tourists has decreased dramatically. National pandemic policies, virus transmission, and local industry impacts have all contributed to the loss of tourists. According to the Statistics and Census Bureau of Macau, the number of tourists in Macau dropped from 2.85 million in January 2020 to 150,000 in February, and even in July 2022 after the pandemic, there were only 9,000 tourists. It was not until January 2023 that the number of tourists began to slowly increase. At the same time, Macau's other pillar industry was also greatly affected.

1.1.2 The Impact of the Pandemic on Macau's Gaming Industry and Other Sectors

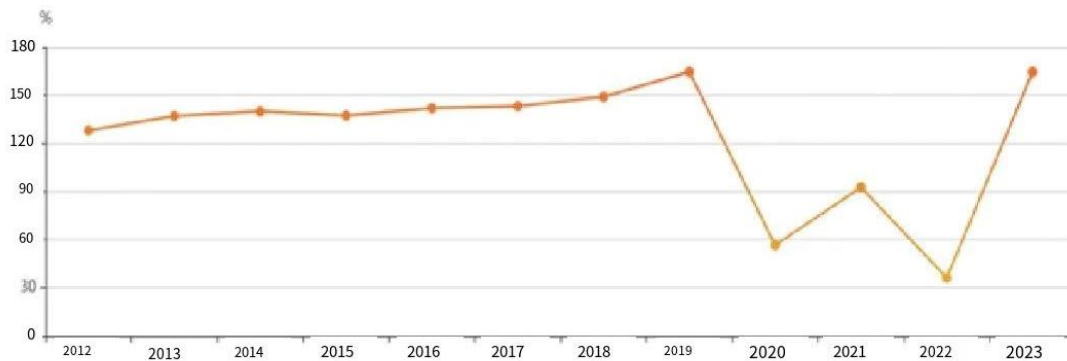


Figure 2

Figure 2 shows the profit-to-expense ratio of Macau's gaming industry from 2012 to 2023. We observe that the profit-to-expense ratio fell sharply between 2020 and 2022. Figure 3 shows the total revenue and total expenses of Macau's gaming industry from 2016 to 2020, and it is evident that the gaming industry's revenue plummeted by 78.4% at the onset of the pandemic. The revenue level remained roughly the same for the following two years. The impact of the pandemic on the gaming industry is enormous.

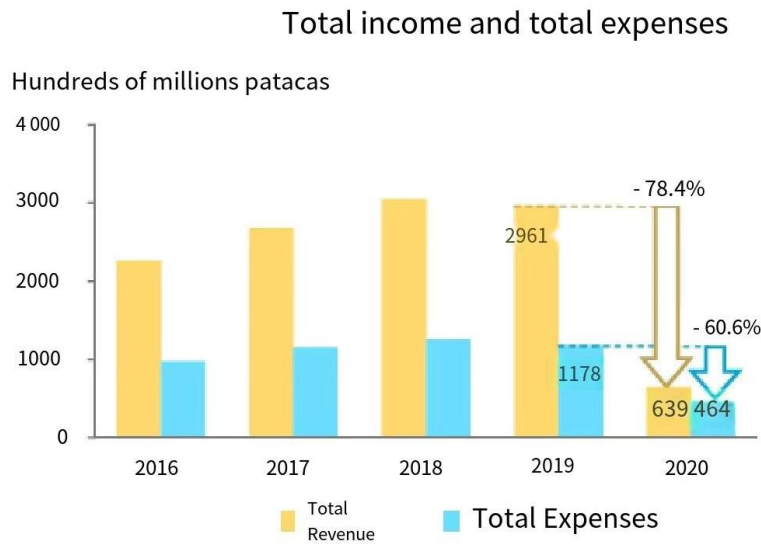


Figure 3

1.2 The Slow Economic Recovery of Macau Post-Pandemic

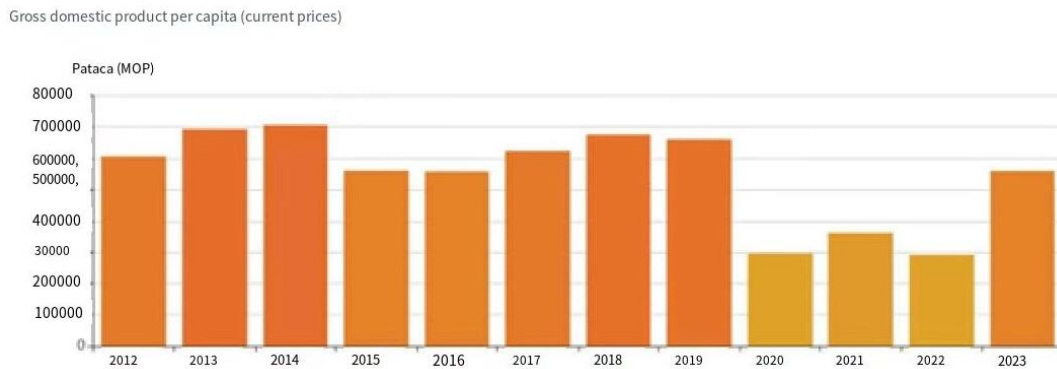


Figure 4

As shown in Figure 4, Macau's GDP per capita roughly returned to pre-pandemic levels in 2023. If this is taken as a sign of economic recovery, and the pandemic lasted for about a year, it took Macau two years to recover economically. Compared to Las Vegas in the United States, where GDP per capita returned to pre-pandemic levels in about a year, it is worth the team's in-depth study on how to improve the speed of Macau's economic recovery after a crisis.

2. Obstacles to Macau's Economic Recovery 1 and Countermeasures

2.1 The Impact of the Pandemic on Macau's Tourism Industry and Its Continuing Influence

In discussing the economic development of Macau, the recovery and development of the tourism industry are particularly crucial, especially during the COVID-19 pandemic (2019-2021), when Macau's tourism industry suffered a severe blow. According to statistics from the Macau Special Administrative Region Government, both the number of tourists and tourism revenue in Macau have seen a significant decline, particularly in 2020 and 2021, when global travel restrictions and the reduction of tourists had a profound impact on the economy.

2.1.1 A Sharp Decline in the Number of Tourists

Before the outbreak of COVID-19, Macau relied heavily on a large number of international tourists, especially those from mainland China. However, with the spread of the pandemic, Macau began to implement strict border control measures in March 2020, leading to a drastic reduction in the number of tourists. Statistics from the Macau Tourism Bureau show (as shown in Figure 5) that the number of tourists entering Macau in 2020 was only 5.89 million, a decrease of nearly 85% compared to 39.4 million in 2019. In 2021, although border policies were somewhat relaxed, the global pandemic was not fully controlled, and the number of tourists still failed to return to pre-pandemic levels.

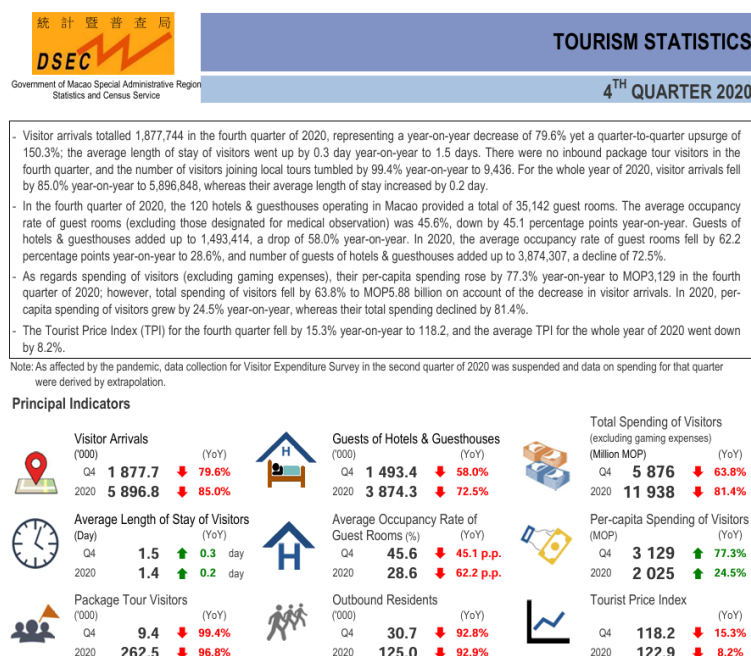


Figure 5

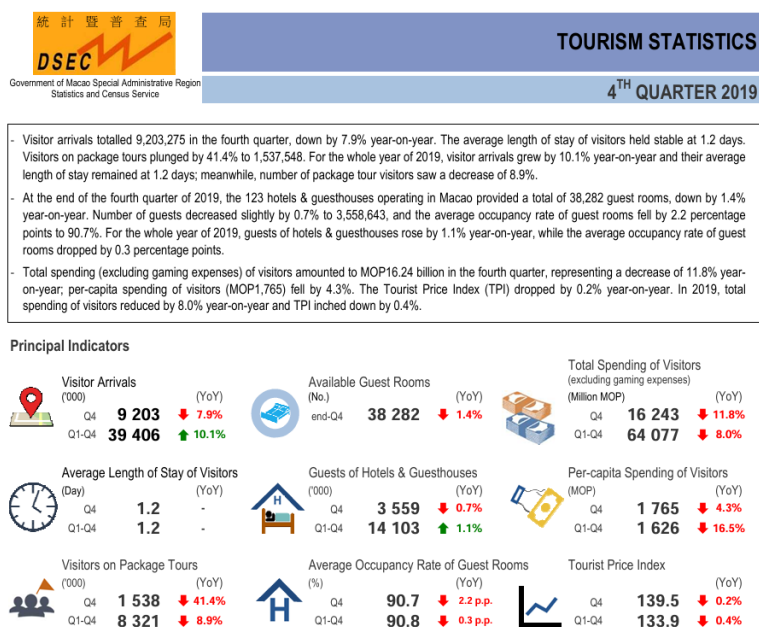


Figure 6

2.1.2 Decline in Tourism Revenue

The reduction in visitor numbers led to a significant drop in tourism revenue. Given Maca's economic dependence on gaming and tourism, the pandemic resulted in substantial losses for the hospitality, dining, and retail sectors. Statistical data indicate that tourism revenue in 2020 fell by more than 60%, accompanied by a decline in average

visitor spending. While 2021 saw some recovery, overall consumption levels remained significantly below 2019 figures.



Figure 7

2.1.3 Overreliance on a Single Market

Macau's tourism industry is highly dependent on tourists from mainland China. During the pandemic, in addition to the reduction of international tourists, Macau's dependency on mainland Chinese tourists further deepened. In 2021, tourists from mainland China accounted for 91.4% of the total number of tourists, while tourists from other regions accounted for less than 10%. This reflects the excessive reliance of Macau's tourism market on a single source, and once the flow of tourists from mainland China decreases, Macau's tourism industry will face tremendous pressure.

VISITOR ARRIVALS BY PLACE OF ISSUE OF TRAVEL DOCUMENT 2021

PLACE OF ISSUE OF TRAVEL DOCUMENT	SEA	LAND	AIR	TOTAL	% Share	Comparison with same period of previous year	
						% Change	No.
GRAND TOTAL	200,821	7,003,735	501,387	7,705,943	100.0	30.7	1,809,095
Mainland China	181,015	6,381,195	482,848	7,045,058	91.4	48.2	2,290,819
Hong Kong	14,081	569,468	5,465	589,014	7.6	-30.1	-254,151
Taiwan Region	5,689	52,494	12,767	70,950	0.9	-31.9	-33,174
Philippines	1	22	4	27	0.0	-99.9	-31,991
India	0	2	0	2	0.0	-100.0	-5,047
Indonesia	0	6	3	9	0.0	-99.9	-12,874
Japan	6	30	28	64	0.0	-99.6	-15,136
Malaysia	0	28	12	40	0.0	-99.6	-9,415
Republic of Korea	1	9	12	22	0.0	-100.0	-44,435
Singapore	4	15	19	38	0.0	-99.4	-5,964
Thailand	0	4	3	7	0.0	-99.9	-7,414
Vietnam	0	5	0	5	0.0	-99.0	-489
Other Asian countries	0	22	8	30	0.0	-99.6	-7,396
Brazil	0	20	6	26	0.0	-97.7	-1,085
Canada	9	91	25	125	0.0	-98.0	-6,056
USA	3	104	64	171	0.0	-98.7	-13,318
Other American Countries	0	59	36	95	0.0	-95.9	-2,198
Germany	1	13	7	21	0.0	-98.9	-1,859
Spain	0	1	1	2	0.0	-99.7	-707
Russian Federation	0	11	1	12	0.0	-99.7	-4,100
France	0	14	24	38	0.0	-98.4	-2,309
Netherlands	0	4	0	4	0.0	-99.4	-644
Italy	0	6	8	14	0.0	-98.5	-919
Portugal	1	5	3	9	0.0	-99.2	-1,132
United Kingdom	1	16	10	27	0.0	-99.3	-3,655
Switzerland	0	2	1	3	0.0	-99.3	-425
Other European Countries	2	14	10	26	0.0	-99.4	-4,449
Australia	7	48	17	72	0.0	-99.1	-7,843
New Zealand	0	7	1	8	0.0	-99.4	-1,435
Other Oceanian Countries	0	10	0	10	0.0	-92.9	-130
South Africa	0	4	0	4	0.0	-99.4	-643
Others	0	6	4	10	0.0	-99.3	-1,331

Source: Statistics & Census Service

i) Arrivals by Sea (The "cross-border yacht sailing scheme" between Macao and Zhongshan has come into service from 23 November 2016) = Outer Harbour + Inner Harbour + Ferry Terminal in Taipa

ii) Arrivals by Land = Border Gate + Hong Kong-Zhuhai-Macao Bridge (has come into service from 24 October 2016) + The Checkpoint of Qingmao (has come into service from 8 September 2021) + Other entry points by land

iii) Arrivals by Air = Airport + Heliport of Outer Harbour

Noted: - According to Statistics & Census Service, the visitor arrivals figures from year

2008 onward will not include other non-resident namely workers, students, etc

Figure 8

2.2 Countermeasures

2.2.1 Promote Regional Cooperation and Diversify Source Markets

To mitigate the risks associated with dependence on a single source market, Macau can strengthen regional cooperation, particularly with neighboring cities such as Zhuhai and Hong Kong, by jointly promoting tourism resources and developing multi-destination travel itineraries. Such cross-regional collaboration can attract more visitors, extend their stay, and increase their spending. Additionally, Macau can expand its international source markets through partnerships with Southeast Asian countries, thereby reducing its reliance on mainland China.

2.2.2 Enhance Macau's Tourism Services and Innovation

Macau can leverage its unique cultural background and rich gaming resources to attract more high-end and long-haul tourists by innovating tourism services and developing new tourism products. For example, Macau can develop diversified tourism products such as high-end tourism, business tourism, and cultural experiences to meet the needs of tourists at different levels. In this process, with the help of technology (such as virtual reality guides, smart city tourism management, etc.), the overall experience of tourists can be enhanced.

2.2.3 Strengthen Collaboration with Mainland Travel Agencies

Mainland China remains a critical source market for Macau. Strengthening partnerships with mainland travel agencies and online travel platforms is essential for restoring and growing visitor numbers. Promotional

campaigns and preferential policies can help attract more mainland tourists. Furthermore, enhancing cooperation with mainland airlines and railway operators to provide more convenient transportation options can facilitate visitor mobility.

2.2.4 Policy Support and Financial Subsidies

To support the recovery of the tourism industry, the Macau SAR government can implement a range of fiscal and policy measures. These include subsidies for hotels, travel agencies, and tour guides to reduce their operational costs. Additionally, the government can stimulate local and tourist spending by introducing tax exemptions, tourism consumption vouchers, and other incentives. Collaborating with international organizations and participating in global tourism recovery initiatives can also help attract more international visitors.

3. Obstacles to Macao's Economic Recovery 2 and Countermeasures

3.1 Post-Pandemic Domestic Challenges Hindering Macau's Economic Recovery

3.1.1 Insufficient Consumer Confidence

Economic operation is driven by market demand. Demand can be broadly divided into internal and external demand, and internal demand is more controllable than external demand. Therefore, the solution to economic problems should focus on internal demand. Internal demand is composed of internal consumption and investment, and we can identify the problems hindering Macau's economic recovery from this perspective. According to the "Macau Consumer Confidence Index Report" released by the Institute of Sustainable Development of Macau University of Science and Technology from 2020 to 2023, the total consumer confidence index in the first quarter of 2020 was 78.68, a decrease of 5.22 compared to 83.90 in the fourth quarter of 2019. Since then, until the first quarter of 2023, the consumer confidence index has shown a slight fluctuation, but it has always been below 100 points, indicating that Macau residents have a pessimistic attitude towards consumption during and after the pandemic, and their willingness to consume is low.

3.1.2 Insufficient Direct Investment Willingness

According to the 2022 Direct Investment Statistics published by the Macao Statistics and Census Service, investment returns in the financial and wholesale and retail sectors decreased by 8.7% and 32.6% year-on-year, respectively. Inbound foreign direct investment totaled MOP 29.24 billion, reflecting a year-on-year decline of 30.8%. This indicates a downward trend in investment willingness during the critical post-pandemic economic recovery phase. Observing these patterns, it becomes evident that Macao's domestic demand remained relatively sluggish during the recovery period, serving as one of the unfavorable factors contributing to the slow pace of economic recovery.

3.2 Countermeasures

Macau's economic recovery cannot rely solely on the external gaming and tourism industries; it should also focus on stimulating domestic demand to boost economic recovery. The team reviewed relevant materials from countries and regions with similar characteristics to Macau, attempting to provide feasible plans for Macau to stimulate domestic demand and economic recovery.

3.2.1 Developing Diverse Tourism Products from a Family-Centric Perspective

If domestic demand is to be stimulated under the pressure of the gaming industry's external environment, tourism products including performances, family tours, and exhibitions can be developed to create and stimulate internal demand. Taking Las Vegas, a city with a similar industrial structure, as an example, after the 2008 economic crisis, Las Vegas began to seek diversified economic development, providing valuable reference solutions. The Las Vegas Convention and Visitors Authority (LVCVA) provided a large amount of data proving the effectiveness of the above methods for economic contribution. As shown in Figure 9, in 2019, the direct expenditure of convention visitors supported approximately 43,500 jobs and \$6.6 billion in direct economic impact. If the indirect and induced impacts of convention visitors' consumption are included, the convention sector is estimated to support 67,600 jobs and \$11.4 billion in total economic output in southern Nevada. Convention visitors accounted for 15.6% of total visits and 17.9% of the economic impact of all visitors in 2019, demonstrating their importance to the entire tourism industry. Using Las Vegas's development of the convention industry as an example, it shows that the development of the tourism industry can share the pressure of the downturn in the gaming industry economically. Returning to Macau, as one of the world's top high-income regions, activating domestic demand can certainly speed up the effect of economic recovery. Macau has rich cultural resources and can activate domestic demand by creating family tour products. For example, by holding art and cultural exhibitions, cultural theme festivals, large-scale public events, etc., and doing a good job in marketing promotion, providing family preferential policies, etc., it will be helpful to stimulate domestic demand in the short term.



TOTAL ECONOMIC IMPACTS OF THE CONVENTION AND MEETING SEGMENT

The conventions and meetings segment is an important contributor to the impact of Southern Nevada's tourism industry. In 2019, convention attendance climbed 2.3 percent to a record of 6.6 million, which helped increase overall visitation and raise the industry's total economic impact. Beyond attracting additional visitors, the convention segment provides positive impacts in the industry by boosting visitation during weekdays, keeping room occupancy rates high when leisure visitors are less likely to be in town. Survey data also indicates that convention visitors spend more per visit than the average leisure visitor. In 2019, the convention visitor spent \$994 per trip, nearly 20 percent higher than the \$843 spent by the average leisure visitor.

Because of their higher average spending profile, convention visitors generate higher per-capita economic impacts on Southern Nevada than leisure visitors. In 2019, convention visitor spending directly supported an estimated 43,500 jobs, \$2.0 billion in wages and \$6.6 billion in direct economic impact. When the indirect and induced impacts of convention visitor spending are included, the convention sector is estimated to support 67,600 jobs, \$3.1 billion in wages and \$11.4 billion in overall economic output in Southern Nevada. While convention visitors represented 15.6 percent of total visitation in 2019, their spending accounted for 17.9 percent of all visitor economic impacts, illustrating their importance to the tourism industry as a whole.

Exhibit 11
Economic Impact of Southern Nevada Convention and Meeting Segment, 2019^a

	Direct Impacts of Convention & Meeting Segment	Convention Suppliers & Vendors	Spending by Convention & Meeting Industry Employees	Total Economic Impacts Generated by Convention & Meeting Segment
	Direct Impacts 43,503	Indirect Impacts 10,319	Induced Impacts 13,793	Total Impacts 67,615
Total Employees				
Total Wage & Salary Payments	\$ 1,972,985,196	\$ 510,268,250	\$ 577,710,152	\$ 3,060,963,599
Total Economic Output	\$ 6,612,271,321	\$ 2,041,845,616	\$ 2,764,108,054	\$ 11,418,224,992

^a Calculations are based on IMPLAN, an input-output econometric model. Refer to the Methodology section of this analysis for further detail.

Figure 9

3.2.2 Relying on Government Macro-control to Stimulate Investment and Domestic Demand

In the process of reviewing literature, we found that attracting investment depends on the promulgation of policies, whether in economically developed or developing regions. For example, Laos, in order to attract investment, offers policy preferences to the extent of allowing monopolies and protecting imports, which is very attractive to leading foreign investors.

Financial preference	Grant government assistance, government subsidies, government financing, government insurance, and market privileges (allowing monopolies and protecting imports)
Budget concessions	Import and export duties, depreciation charges, initial income tax and profit tax for new investment projects will be reduced or exempted.

Figure 10

Similarly, Monaco, with its policy of no personal income tax, has attracted wealthy individuals and financial company investments, promoting the development of high-end financial services such as banking, insurance, and asset management industries. Therefore, during the economic recovery phase, Macau can also issue strong tax reduction policies to attract investment, such as formulating reduced corporate income tax policies for the financial industry, convention industry, and medical industry, reducing turnover tax policies, exempting stamp duty, reducing business tax, and medical services exempt from value-added tax, etc., to truly consider the profits of foreign capital from a profit perspective and promote the continuous development and innovation of the industry.

4. Obstacles to Macau's Economic Recovery 3 and Countermeasures

4.1 The Inadaptability of Macau's Social Policies

The formulation of social policies is usually adjusted according to social issues of different periods. However, after the COVID-19 pandemic, the existing problems in Macau and the new problems that emerged during the pandemic require adjustments to social policies. Government fiscal revenue is affected by social policies, government fiscal revenue determines public expenditure, and public expenditure can improve public welfare, which in turn can boost public consumption ability and ensure public employment. Due to the impact of the pandemic, as the pillar industry of gaming economy declined, government revenue decreased, reserve funds decreased, and expenditure pressure increased.

4.1.1 Policy Inadaptability to Population Structure Issues During Economic Recovery

Macau's population aging and the decline in birth rate have been long-standing issues. From a total population of 650,834 in 2016 to 687,000 in the first half of 2024, there is still a certain increase on the surface, but it implies that Macau's birth rate has decreased from 13.57% in 2016 to 5.5% in 2023, and the old-age dependency ratio has decreased from 29.975% in 2017 to 24.8% in 2023, which is equivalent to one elderly person being supported by four adults, and the aging index has climbed to 106.1% in 2023. This reflects the problem of Macau's population aging.

4.1.2 Policy Inadaptability to Employment and Labor Issues During Economic Recovery

The COVID-19 pandemic has had a significant impact on Macau's single economic structure. During the pandemic, the number of tourists coming to Macau decreased sharply, and the reduction in consumption led large enterprises to lay off workers to reduce costs, affecting employment. Macau's gross domestic product was 434.7 billion MOP before the pandemic, with a per capita gross domestic product of 565,000 MOP, but by 2021, it had dropped to 239.4 billion and 350,400 respectively. Macau's unemployment rate was generally below 2.0% before the pandemic, but it continued to rise in 2020, 2021, and 2022, reaching 2.9%, 3.9%, and 4.3% respectively, with the unemployment rate for young people being as high as 14.2% at its worst, and the underemployment rate also

rose to 16.5%. There was also a significant decrease in per capita income and median income. This reflects that the single economic industrial structure is a constraint on the employment and income of Macau residents. During the pandemic, in order to protect the employment of local residents, enterprises would prefer to reduce the number of foreign workers. Under this policy, the number of foreign workers decreased from about 197,000 in 2019 to 157,000 in 2022, but this reflects the problem of labor shortage and high dependence on foreign labor. Moreover, the demand for human capital brought about by the economic structure has increased the demand for high-skilled talents.

4.2 Countermeasures

4.2.1 Establishing a Scientific and Cyclical Population Policy Adjustment Mechanism

Improve the population policy after the crisis to cope with the negative impact of population structure. Strengthen the development of health and elderly care services. According to our predictions of Macau's population in the future, the proportion of the elderly population in Macau will reach 20.9% by 2041, only 0.1% away from the international standard of a super-aged society. Moreover, in recent years, the physical fitness and average age of the elderly have continued to improve, but the labor participation rate of the elderly over 65 years old in Macau is only 13.3%, showing that "silver employment" has great development and discussion space. Therefore, social policies can be formulated to encourage the elderly to undergo re-employment training and provide employment for those who are willing and able, which can solve the labor shortage problem to a certain extent, alleviate Macau's fiscal pressure. Adjustments to fertility policies can also be made. By strengthening financial support for childbirth, the labor force population can be increased, and the population structure can be improved.

	2013	2018	2021	2022	2023
'000 MOP					
Pension					
Old-age pension & additional payment					
No. of recipients	136 265	110 319	129 202	137 428	147 054
Amount	2 076 264	3 785 773	4 832 498	5 057 728	5 396 427
Disability pension					
No. of recipients	2 520	6 840	9 794	10 630	11 465
Amount	87 724	253 469	438 477	474 362	507 881
Allowance					
Birth allowance					
No. of cases	5 820	7 291	6 094	5 245	4 661
Amount	7 622	33 044	33 602	27 839	25 643
Unemployment allowance					
No. of beneficiaries	3 044	3 809	4 286	8 740	3 733
No. of cases	~	~	11 649	25 994	~
Amount	8 850	14 008	44 191	99 293	35 501
Sickness allowance					
No. of cases	2 502	1 870	1 410	1 157	65 131
Amount	3 974	3 909	3 941	2 973	36 211
Marriage allowance					
No. of cases	3 108	3 145	2 881	2 650	3 027
Amount	3 895	6 077	6 211	5 437	6 629

Figure 11

4.2.2 Precise Allocation of Labor Resources

Hold relevant job fairs, through which the Macau government can build a platform for job seekers and enterprises, providing employment opportunities while allocating labor resources. Promote online and offline employment docking to improve matching efficiency and promote employment. Promote relevant policy support and optimize the "Subsidized Training Program" to strengthen employment promotion for the public. Fully utilize the role of the labor force and provide precise support for industries with labor demand, thereby efficiently restoring the industry.

5. Conclusion

The above is the exploration and countermeasures for the slow economic recovery of Macau. Macau should pay attention to tourists, domestic demand, and the adaptability of policies during the economic recovery period. The Macau government has been actively dealing with the aftermath of the pandemic, and now the economic indicators have generally returned to the 2019 level. Although the COVID-19 pandemic has hit Macau's economy, it has also tempered the resilience of Macau's economy.

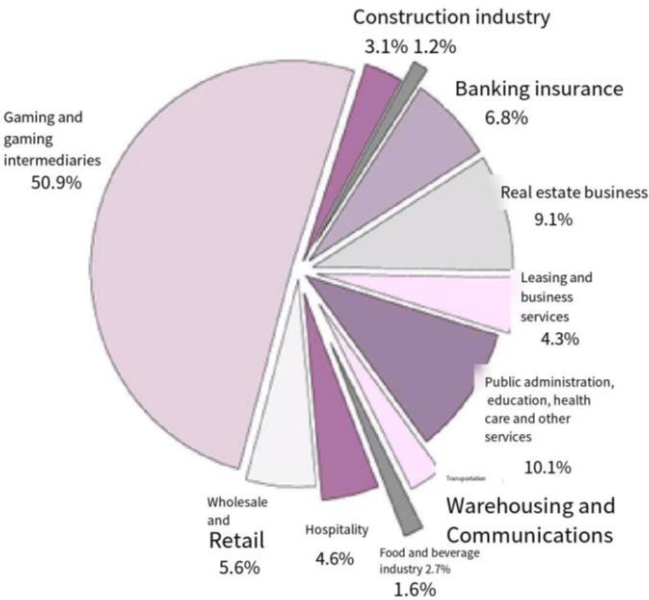


Figure 12

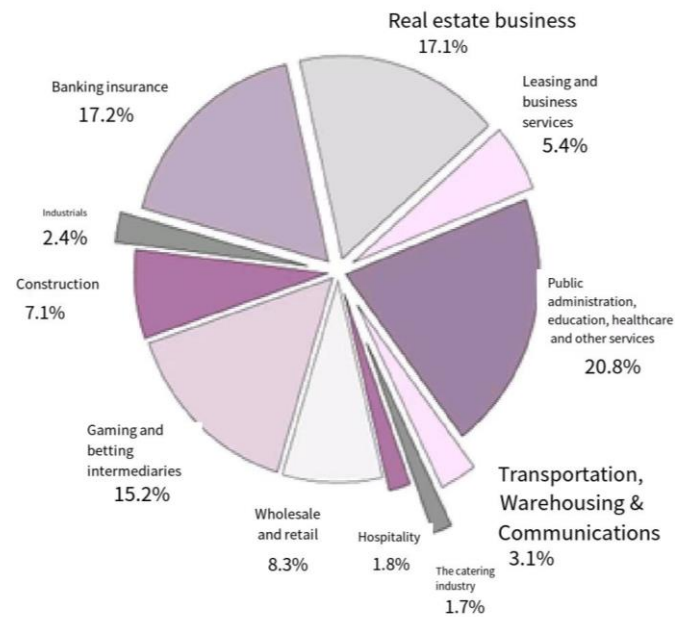


Figure 13

As shown in Figures 12 and 13, under the pandemic, Macau has chosen to develop a diversified industry, such as the financial service industry. In the future, Macau can use the experience gained from this pandemic to protect the economic operation with a normalized crisis response plan.

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