Holiday Havoc or Economic Boost?

Deciphering the Influence of Public Holidays on Global Economies

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Summary

Governments and policymakers alike recognize the potential implications of public holidays on market performance and overall economic stability.

The landscape of public holidays exhibits significant variation across countries, impacting on various aspects of the economy.

An increase in the number of holidays correlates with positive impacts on economic growth up to an 'optimal' point. Ten public holidays is found to be optimal for fostering continuous economic growth.

Significant role of governments in managing the delicate trade-off between the number of public holidays and potential loss of working hours shall be further scrutinized.

By creating avenues that encourage increased consumption during holidays, governments can effectively bolster economic growth.

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The economic symphony of holidays: Balancing growth and rest

In the ever-evolving landscape of the global economy, the role of public holidays in shaping economic performance has emerged as a topic of significant interest. Governments and policymakers alike recognize the potential implications of these holidays on market performance and overall economic stability. The holiday effect, a well-documented phenomenon, centers around common public holidays, such as Christmas, New Year, and months of Ramadan, among others.

At the core of informed policymaking lies a deep understanding of the holiday effect, as it holds the key to optimizing economic efficiency and promoting market stability. By acknowledging the impact of public holidays on the economy, authorities can formulate targeted policies that effectively mitigate potential risks, capitalize on opportunities, and foster a conducive financial environment.

To initiate our exploration, we must first address the foundational question: Are holidays beneficial or detrimental to the economy? Furthermore, what constitutes the optimal number of holidays to sustain economic growth? This critical inquiry sets the stage for a comprehensive analysis of the dynamics between public holidays and economic growth.

In the pursuit of empirical evidence, this policy brief employs a cross-country model approach to measure the effect of public holidays on economic growth. Our aim is to derive meaningful insights that shed light on the intricate relationship between holidays and economic performance. By analyzing data from 101 countries, we embark on a rigorous

examination of the empirical data to ascertain the potential impact of public holidays on economic growth.

The findings of our study reveal intriguing patterns. While a linear relationship between holidays and economic growth proves to be weak, we discover a more nuanced scenario with a nonlinear relationship. The presence of an inverted U-shaped curve indicates that a certain number of holidays can indeed contribute positively to economic growth, up to a certain threshold. However, beyond this point, an excessive number of holidays may start to hinder economic performance.

As the global economic landscape continues to evolve, our research underscores the significance of acknowledging the nuanced relationship between public holidays and economic performance, guiding evidence-based policy decisions for the benefit of economies.

Charting public holidays and economic growth of nations

The landscape of public holidays exhibits significant variation across countries, with the number of holidays differing considerably from one nation to another. Based on the country income classification provided by the World Bank, a compelling trend emerges revealing that middle-income countries tend to observe a higher number of public holidays on average (Table 1).

The diversity in the number of public holidays reflects the cultural, historical, and social contexts of individual countries. While some nations may have a modest number of holidays, others embrace a more extensive array of celebrations, festivals, and observances. These holidays often hold deep-rooted significance, reflecting the values, traditions, and beliefs of the respective societies.

Table 1

Average number of holidays by country classification

Country Classification	Average Number of Holidays
High-Income Economies	12
Middle-Income Economies	15
Low-Income Economies	13

Source: The number of holidays by country classification is obtained from Time and Date (https://www.timeanddate.com/holidays/)

Public holidays wield significant effects on various aspects of the economy, particularly the stock market. The phenomenon known as the holiday effect is marked by two discernible trends: the pre-holiday effect, wherein stock returns experience a notable surge before holidays, and the post-holiday effect, characterized by sustained high returns after holidays.

Nonetheless, the impact of public holidays extends beyond the stock market, permeating economic growth and other sectors of the economy. These holidays and vacation periods offer individuals a valuable opportunity to unwind and partake in leisure activities, fostering positive effects on happiness and overall well-being.

Leisure time plays a pivotal role in enhancing physical and mental health, consequently contributing to an improved quality of life and work. As individuals experience reduced work-related pressure and increased efficiency, the overall result is a notable boost to economic growth.

Drawing from cross-country data for 101 countries (Figure 1), the number of holidays demonstrates a curvilinear relationship with economic growth, resembling an inverted U-shaped trendline. It suggests an increase in the number of holidays correlates with positive impacts on economic growth up to a certain point. As the number of holidays increases, economies experience benefits such as enhanced well-being, improved work-life balance, and increased consumer spending during holiday periods.

Figure 1

Tabulation of the number of public holidays and GDP growth
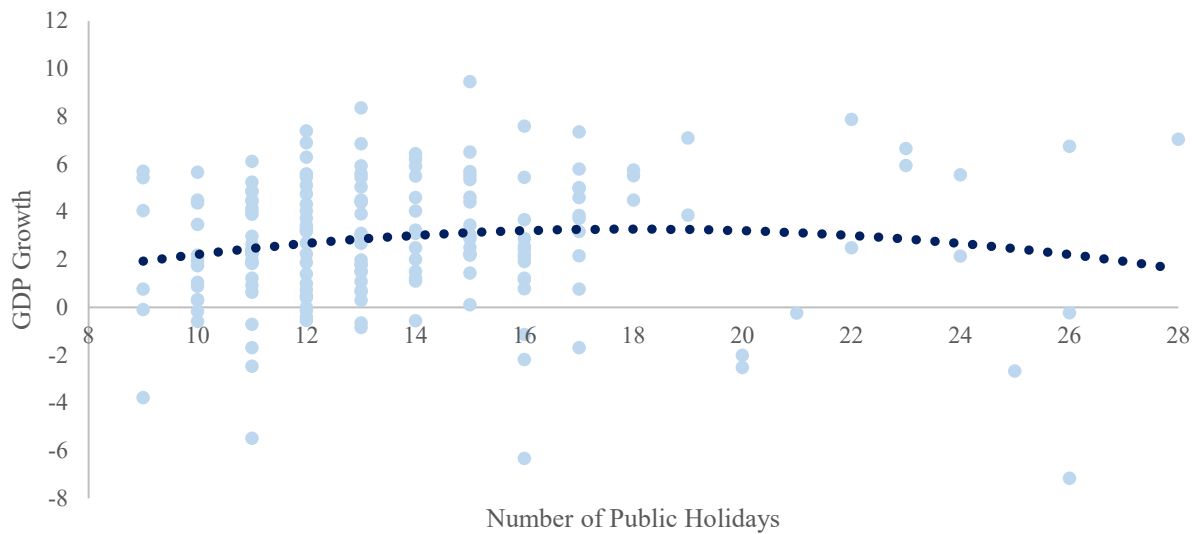
However, as the number of holidays continues to rise, the positive effects eventually plateau, and further increases may lead to diminishing returns. At this stage, the trendline begins to slope downwards, suggesting potential negative impacts on economic growth. Excessive holidays can lead to disruptions in business operations, reduced productivity, and increased costs for enterprises. Additionally, extended holiday periods may create challenges in meeting production schedules and delivering essential services, potentially impeding economic performance.

Therefore, finding the right balance between celebrating public holidays and maintaining optimal economic productivity becomes crucial for sustained and prosperous growth.

Modelling the impact of public holidays on economic growth

The ultimate model examines the relationship between economic growth (real GDP) and the number of public holidays. To ensure the robustness of this relationship, we include control variables such as growth in labor productivity, capital, growth in tourism, governance, foreign direct investment, and growth in urbanization. Our analysis utilizes three estimators: Ordinary Least Square with robust standard error, Robust regression M-estimation.

Our results show that the estimated linear relationship between economic growth and public holiday is not encouraging enough to ascertain the impact of holidays on economic growth. The holidays have a negative impact on economic growth and are statistically significant at the 10% level. The weak relationship suggests that more public holidays might reduce economic growth. However, increased growth in productivity, capital services, tourist arrivals, governance, foreign direct investment, and urbanization are associated with enhanced economic growth.

On the other hand, we also test the nonlinear relationship between economic growth and holiday and found. This implies that as the number of public holidays increases, initially economic growth increases, but after some optimal point, when the number of public holidays increases further, economic growth starts to decline, therefore, resembling an inverted U-shaped curve. Our model suggests that the optimal days calculated are between 9 days and 10 days.

In addition, Table 2 shows the re-estimation results for both linear and nonlinear between economic growth and holiday by using the OLS-robust estimation and the robust regression M-estimation. The results clearly indicate that both nonlinear estimated regressions show a better model compared to the linear model in which the holiday variable in the quadratic form is highly significant at the 1% level, with a positive coefficient for $holiday_i$, and negative estimated coefficient for $holiday_i^2$, thus, exhibiting an inverted U-shaped curve (Figure 2). The calculated optimal number of public holidays suggest by our analysis is between 10 days for OLS-robust and 11 days for robust regression.

Figure 2

Optimal number of public holidays and GDP growth by using 2 approaches
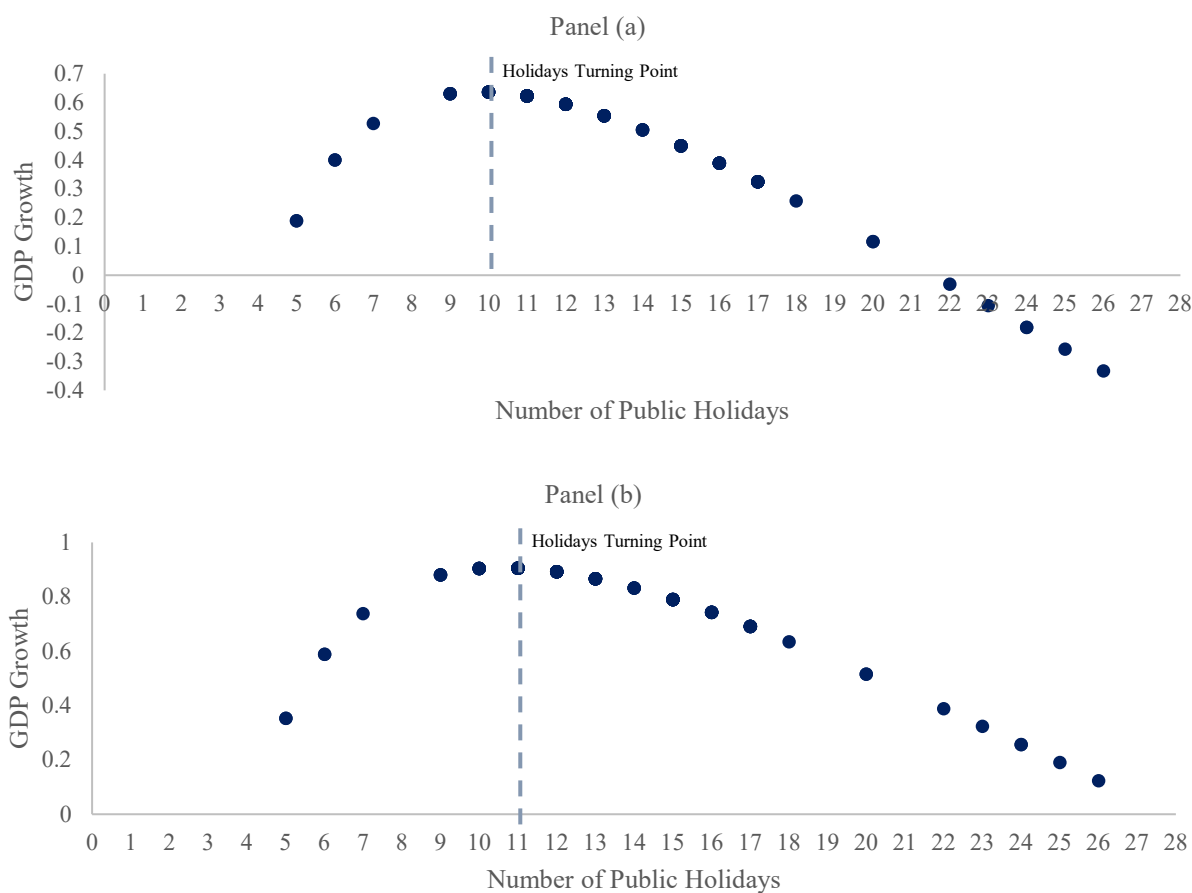
Panel (a)

Panel (b)

Note: Results in Panel (a) and Panel (b) are generated from OLS-robust estimation and robust regression M-estimation, respectively.
Source: Computed by EU-ERA based on the data from World Development Indicator, Penn World Table 10.0 and Time and Date (https://www.timeanddate.com/holidays/)

Optimal holidays are not an isolated solution, other effects also matters

The impact of public holidays on economic growth is a complex matter with potential benefits and drawbacks. On one hand, firms' productivity may suffer due to lost working hours, posing a challenge to economic growth. On the other hand, public holidays can stimulate economic activity if people increase their spending in the recreational and tourism sectors. Consequently, the effects of public holidays on economic growth require more complex assessment.

The findings of our study suggest that the "optimal" number of public holidays can be increased when economic growth shows a persistent upward trend. Based on our analysis, it appears that having 10 days of public holidays is optimal for fostering continuous economic growth. Several macroeconomic factors also contribute to boosting economic growth, including labor productivity growth, capital investment, tourism expansion, good governance, foreign direct investment, and urbanization.

Governments and companies should find the right balance between leisure time and working hours by considering the "optimal" number of public holidays, to support sustained economic growth. In economically thriving countries, increasing the number of public holidays while raising income levels can boost well-being and job satisfaction for the public and the workforce. Additionally, creating leisure facilities in public spaces and workplaces can promote healthy leisure activities.

Although our study provides a fundamental analysis of the causal effects of public holidays on economic growth, employing a cross-country growth model for 2019, it underscores the significant role of governments in managing the delicate trade-off between the number of public holidays and potential loss of working hours. By creating avenues that encourage increased consumption during holidays, governments can effectively bolster economic growth.

Table 2

Results of OLS-robust and Robust regression on the impact of holiday on economic growth, without the initial condition

Independent variables	OLS-robust:		Robust regression M-estimation:	
	Linear	Nonlinear	Linear	Nonlinear
Constant	1.5038**	-4.5776***	0.8257*	-4.5467**
	(2.2908)	(-3.5477)	[1.6612]	[-2.3268]
$holiday_i$	-0.4197*	4.5816***	-0.0215	4.6175***
	(-1.6677)	(3.9922)	[-0.1142]	[2.9431]
$holiday_i^2$	-	-1.0063***	-	-0.9773***
		(-4.0883)		[-3.1167]
$productivity_i$	0.6020***	0.5980***	0.4359***	0.4898***
	(10.535)	(10.811)	[10.827]	[12.689]
$capital_i$	3.3639**	3.3309**	1.9954*	1.8155*
	(2.5846)	(2.5751)	[1.7764]	[1.6868]
$tourism_i$	0.0614**	0.0582**	0.0619***	0.0347
	(2.0465)	(1.9927)	[2.6423]	[1.5443]
$governance_i$	0.2714***	0.2342**	0.1210	0.0948
	(2.6607)	(2.4183)	[1.6341]	[1.3180]
fdi_i	0.0970***	0.0872**	0.1109***	0.1062***
	(2.7881)	(2.4581)	[2.9265]	[2.9142]
$urban_i$	0.2947***	0.2539***	0.2802***	0.2562***
	(2.8144)	(2.6602)	[3.5393]	[3.3318]
$adjR^2 / Rw^2$	0.664	0.682	0.714	0.772
Optimal point	-	10 days	-	11 days

Notes: Asterisks ***, ** and * denote statistically significant at 1%, 5% and 10% level, respectively. All variables are in logarithm and the estimated coefficients are elasticities. Dependent variable is growth in real GDP (%). Figures in round brackets (…) and square brackets […] are t-statistics and z-statistics, respectively. adjR^2 denotes adjusted R-square measures goodness of fit in the OLS; while Rw^2 measures goodness of fit for the Robust regressions. The optimal point is calculated as $-\theta\hat{}_1/2\theta\hat{}_2$.

Box Article 1

We model the impact of holidays on economic growth in a cross-country growth model, we specify the extension of the new growth theories as follow,

$$growth_i = \alpha_0 + \beta_j initial_{ji} + \theta_1 holiday_i + \gamma_{ki} Z_i + \epsilon_i \qquad (1)$$

where $growth_i$ is economic growth measure using growth in real Gross Domestic Product (GDP); and $initial_{ji}$ is the initial condition variable proxy using the initial level of real GDP at the initial year. In this study, we will experiment with several initial years, in particular, initial year for 1960, 1970, 1980, 1990 and 2000. For this, we label the initial condition variables, j, as $initial_{1960}$, $initial_{1970}$, $initial_{1980}$, $initial_{1990}$ and $initial_{2000}$. The variable of our main interest, $holiday_i$, is the number of public holidays; while Z_i is a vector of k control variables. In this study, we include macroeconomic variables such as growth in productivity, capital services, growth in tourism, governance, foreign direct investment and growth in urbanisation.

Growth in productivity is measure using the growth in GDP per person employed; growth in tourism is proxy using the growth in the tourist arrivals; while the growth in urbanisation is the growth in the ratio of urban population to total population. On the other hand, we measure governance using "voice and accountability", while foreign direct investment is the ratio of foreign direct investment net inflows to GDP. Parameters α_0, β_j, θ_1 and γ_{ki} are coefficients to be estimated; and ϵ_i is the disturbance term which is assume to exhibit zero mean and constant variance.

The impact of the initial level of real GDP on economic growth is expected to be negative, if convergence hypothesis is true across the country. If β −convergence exist, it implies that countries with a lower initial level of real GDP grow faster than those with a higher initial level of real GDP, and β represents the speed of convergence to the steady-state. The lack of convergence would signify the heterogeneity of the countries and club convergence is possible among the cross countries.

Increase in the number of public holidays would mean that fewer days are available for work. The working time lost to holidays negatively affects firms' productivity, which in turn, reduces economic growth. On the other hand, if during holidays, private consumption and tourism expenditure increases, this will boost economic growth. Thus, *a priori* we would expect that the sign is ambiguous, in other word, $\theta_1 > 0$, or $\theta_1 < 0$.

For the control variables, Z_i, it has been recognised in the literature that the increase in the growth in productivity, capital, growth in tourism, good governance, foreign direct investment and growth in urbanisation will enhance economic growth. Thus, it is expected *a priori* that the impact of productivity, capital, tourism, governance, foreign direct investment and urbanisation is positive on economic growth.

Nonlinear Effects of Holiday on Economic Growth

Taking the suggestion and evidence from previous studies which posited that the relationship between economic growth and public holiday could be nonlinear, we also estimate the following regression,

$$\text{growth}_i = \alpha_0 + \beta_j \text{initial}_{ji} + \theta_1 \text{holiday}_i + \theta_2 \text{holiday}_i^2 + \gamma_{ki} Z_i + \epsilon_i \qquad (2)$$

We would expect that when $\theta_1 > 0$ and $\theta_2 < 0$, the nonlinear relationship between economic growth and holiday is supported. The quadratic form for holiday with $\theta_1 > 0$ and $\theta_2 < 0$, will exhibit an inverted U-shaped curve between growth and holidays. Equation (2) suggests that public holidays have a positive effect on economic growth because it allows workers to increase their expenditure on leisure time and leisure activities. This expenditure increases the economic activity, and eventually economic growth. On the other hand, too many public holidays lead to a reduction in work time, and this eventually reduces productivity and, in turn, output of the economy. Thus, the relationship between economic growth and public holiday should display an inverted U-shape curve.

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EU-ERA Policy Brief

EU-ERA Policy Brief offers a short note with combined analysis and policy recommendations in addressing developmental issues that are directly and indirectly affect the labor market in Malaysia. This policy brief aims to generate a forward-looking and proactive discussion among policymakers, researchers and stakeholders in identifying emerging trends, challenges, and opportunities in the economy. The orientation is toward the real-world policy challenges and opportunities, with an emphasis on providing practical recommendations that can help guide decision-making.

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