



IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 12 Issue: XII Month of publication: Dec 2024
DOI:

www.ijraset.com

Call: 🛇 08813907089 🕴 E-mail ID: ijraset@gmail.com



# **Economic Recession Causes, Impacts and Recovery**

Sudha Rani<sup>1</sup>, Mrs MV Mani Chandana<sup>2</sup>

<sup>1</sup>MBA 2<sup>nd</sup> Year, <sup>2</sup>Assistant Professor, Sridevi Women's Engineering College, Hyderabad

Abstract: Understanding Economic Recessions: Causes, Impacts, and Recovery Economic recessions are a natural part of the economic cycle, characterized by a significant decline in economic activity across the economy, lasting for a prolonged period—typically at least two consecutive quarters. These downturns are marked by a fall in Gross Domestic Product (GDP), rising unemployment rates, reduced consumer and business spending, and declining industrial production. Understanding the causes, impacts, and recovery mechanisms of recessions is essential for policymakers, businesses, and individuals.

# I. CAUSES OF RECESSION

Recessions are periods of significant economic decline characterized by a reduction in GDP, widespread unemployment, lower consumer spending, and business activity. There are several key factors that can cause or contribute to a recession:

# 1) Demand Shocks

A sudden decrease in consumer demand can lead to a recession. If consumers and businesses reduce spending on goods and services, it can cause a ripple effect throughout the economy, leading to slower growth and potentially a contraction.

#### 2) Supply Shocks

Disruptions in the supply of essential goods, such as oil or food, can also lead to recessions. Supply shocks increase costs for businesses, which may cut back on production, leading to a slowdown in the economy.

# 3) Financial Crises

Financial instability, such as a banking crisis or a collapse of the stock market, can erode consumer confidence and reduce available credit. When financial institutions fail or credit tightens, it becomes harder for businesses and individuals to borrow money, which slows down economic activity.

# 4) High Inflation

Excessive inflation can lead to economic instability. As prices rise, purchasing power falls, leading to reduced spending. Central banks may raise interest rates to combat inflation, which can further slow economic growth and trigger a recession.

#### 5) Government Policies

Economic policies that restrict spending or raise taxes can have negative effects on the economy. For example, austerity measures or a significant reduction in government spending can reduce aggregate demand and lead to an economic slowdown.

# 6) Geopolitical Events

Wars, trade wars, and political instability can disrupt markets and trade flows, creating uncertainty in the economy. For instance, conflicts that disrupt oil supplies or major trade routes can increase costs and reduce growth.

#### 7) Global Economic Factors

A recession in major global economies can affect trade and investment in smaller economies. When major economies experience slowdowns, it often leads to reduced demand for exports, hurting industries that rely on global markets.

In summary, recessions typically result from a combination of these factors, and their severity can vary depending on the underlying causes and the policy response.



# II. IMPACT OF RECESION

The impact of a recession varies across industries, with some sectors more vulnerable to economic downturns than others. During a recession, overall consumer spending declines, businesses cut back on investments, and uncertainty increases. This affects industries in different ways, from job losses to declining sales and reduced profits.

Here's how different industries typically respond to a recession:

#### 1) Retail

Impact: Negative

- Retailers, especially those selling non-essential goods, often see a sharp decline in consumer spending. People cut back on discretionary purchases like clothing, electronics, and luxury item
- Discount retailers and online businesses may fare better than high-end brands, as consumers shift to more affordable options.
- Smaller or less established retailers may struggle to stay afloat due to reduced sales.

#### 2) Manufacturing

Impact: Negative

- Manufacturing sectors are typically hit hard during recessions due to a decline in demand for both consumer goods and industrial products.
- Companies may scale back production, leading to layoffs and reduced investments in new technologies or expansion.
- Some manufacturing industries tied to luxury or non-essential products, such as automotive and electronics, see particularly steep declines.

#### 3) Construction and Real Estate

Impact: Negative

- Construction activity often slows down as both commercial and residential projects are put on hold. Investors and developers may delay or cancel projects due to declining demand and tightening access to financing.
- The real estate market can experience a downturn, with falling property values, reduced sales, and higher default rates on mortgages.
- However, sectors such as infrastructure development (e.g., roads, bridges) may see sustained demand if governments implement stimulus spending on public works.

#### 4) Technology

Impact: Mixed

- The technology industry may see less of a direct hit in a recession compared to other sectors. However, tech companies providing non-essential services or products may experience slower growth or declines in sales.
- On the other hand, demand for certain technologies such as cloud computing, cybersecurity, and remote work tools might rise as businesses seek to adapt to cost-cutting measures or digital transformation.
- Startups and smaller tech firms often suffer more than established companies with stronger financial stability.

# 5) Healthcare

Impact: Mixed

- While the healthcare sector is often seen as recession-resistant, it is not immune.
- Elective procedures and non-urgent care may decrease as people cut back on spending or delay medical treatments.
- However, essential services, pharmaceuticals, and healthcare-related technologies tend to see steady demand.
- Health insurance providers may also face challenges with rising claims, especially if unemployment increases, leading to loss of coverage for many people.

# 6) Finance and Banking

Impact: Negative to Neutral



- held at Sridevi Women's Engineering College, Dec 2024
- Financial institutions can suffer during recessions due to rising defaults on loans, mortgages, and credit cards, as well as the stock market downturn.
- Interest rate hikes by central banks may reduce demand for loans, while tighter credit conditions can slow economic activity.
- On the other hand, financial services like wealth management and insurance may see some demand as individuals look to protect their assets or investments during uncertain times.

# 7) Hospitality and Travel

Impact: Severe Negative

- The hospitality and travel industries are often hit hardest by recessions. As disposable incomes decline, people cut back on vacations, dining out, and entertainment.
- Hotels, airlines, cruise lines, and tourism operators may see a sharp decline in demand, leading to layoffs, closures, and bankruptcies in the worst cases.
- However, budget-friendly travel options and local tourism may still see demand, as consumers prioritize affordability.

#### 8) Energy

Impact: Mixed

- The energy sector can be heavily affected by a recession, especially if demand for oil, gas, and electricity drops due to lower industrial production and reduced consumer activity.
- Energy prices may fall if global demand slows, hurting companies in the oil and gas industry.
- However, renewable energy sectors may continue to grow, as governments and businesses focus on long-term energy security and sustainability, even during economic downturns.

#### 9) Telecommunications

Impact: Neutral to Positive

- Telecommunications services (e.g., internet, mobile phones) are often considered essential and thus less affected by recessions.
- People still need communication services for work, education, and socializing.
- While consumers might downgrade to cheaper plans, the overall demand for telecommunications services tends to remain relatively stable.

# 10) Education

Impact: Mixed

- Public education systems generally continue to function even during recessions, though funding cuts and austerity measures can impact their operations.
- Private education institutions, including colleges and universities, may face declining enrollment as students and families tighten their budgets.
- Online education and e-learning platforms, however, may benefit as more people seek affordable educational alternatives during tough economic times.

# III. IMPACT IF RECESSION ON SOCIETY

The impact of a recession on society can be profound and far-reaching, affecting individuals, families, communities, and the broader social fabric. While economic downturns are primarily economic in nature, their effects often spill over into social, psychological, and political dimensions. Below are some of the key societal impacts of a recession:

1) Unemployment and Job Losses

- Widespread Unemployment: One of the most immediate effects of a recession is an increase in unemployment. Businesses may reduce staff to cope with reduced demand or cut costs, leading to layoffs, furloughs, or hiring freezes.
- Long-Term Unemployment: Prolonged joblessness can lead to a situation where workers, especially those in vulnerable sectors, find it difficult to re-enter the workforce. This can create a "scarring" effect, making it harder for individuals to regain stable employment even after the economy recovers.



• Underemployment: Many people may not lose their jobs but may face reduced hours, lower wages, or shifts to part-time work, leading to financial strain and a lower standard of living.

# 2) Poverty and Inequality

- Increased Poverty Rates: As people lose their jobs or experience wage cuts, the risk of falling into poverty increases. Families who were already living paycheck to paycheck may find it impossible to meet basic needs like housing, food, and healthcare.
- Rising Inequality: Recessions often exacerbate existing social and economic inequalities. Vulnerable populations, such as lowincome workers, racial minorities, and women, tend to experience the most severe effects of a recession. These groups may face greater difficulty in finding new jobs or accessing support programs, deepening economic disparities.
- Widening Wealth Gap: During a recession, asset prices (such as real estate or stocks) may fall, and wealthier individuals may suffer fewer losses or may even be in a position to purchase assets at a lower price. This can worsen wealth inequality, as wealthier individuals have more resources to weather the downturn.

# 3) Mental Health and Psychological Stress

- Increased Anxiety and Stress: The financial pressures brought on by job loss, reduced income, or uncertainty about the future can lead to significant psychological distress. Anxiety, depression, and stress levels often rise during recessions as individuals worry about their financial security and the well-being of their families.
- Suicide and Mental Health Issues: Economic hardship has been linked to increased rates of suicide and substance abuse, as people struggle to cope with the stress of losing their livelihoods or facing financial ruin. Vulnerable populations, including the unemployed or those in precarious employment, are particularly at risk.
- Social Isolation: As people lose their jobs or become economically disadvantaged, social isolation can increase. Financial strain can lead to people withdrawing from social activities, which can worsen feelings of depression and isolation.

# 4) Education and Youth Opportunities

- Cuts to Education Funding: In times of recession, governments often implement austerity measures, which can include cuts to public services such as education. These cuts may affect school programs, teacher salaries, and educational resources, particularly in lower-income areas.
- Impact on Youth Employment: Young people entering the workforce may find it especially challenging to secure their first job during a recession, limiting their career prospects and delaying their entry into the workforce. The longer young people remain unemployed or underemployed, the more difficult it can be for them to build a stable career.
- Long-Term Consequences: Reduced access to education and employment opportunities for youth can lead to a "lost generation" with long-term economic consequences, including lower lifetime earnings, increased poverty, and reduced social mobility.

# 5) Social Unrest and Political Instability

- Protests and Social Movements: Recessions often lead to social unrest, as people become frustrated with the economic system and the government's response to the crisis. Protests, strikes, and demonstrations can occur as individuals demand better job security, higher wages, or government assistance.
- Political Polarization: Economic downturns can fuel political instability and contribute to greater polarization. People may lose faith in existing political institutions and turn to populist or extremist political movements, leading to social division and weakening social cohesion.
- Government Response and Public Trust: How the government responds to a recession can significantly affect social stability. Effective policy responses can help alleviate some of the social burdens, while inadequate or poorly managed responses may lead to a loss of trust in political institutions and further unrest.

# 6) Family and Household Stress

• Increased Family Strain: Financial insecurity and the stress of job loss can lead to strained relationships within households. Economic pressure may increase domestic violence, relationship breakdowns, and family separations. The emotional toll of financial hardship can spill over into family dynamics, affecting both adults and children.



• Delayed Life Events: A recession can delay major life decisions, such as purchasing a home, starting a family, or going to college, as individuals and families focus on securing their basic needs. This can affect generational wealth accumulation, family structures, and long-term social mobility.

# 7) Health and Access to Healthcare

- Decline in Health: Recessions are often associated with a decline in public health due to limited access to healthcare, poor nutrition, and increased stress. Lower-income families may struggle to afford health insurance or medical care, leading to untreated conditions and worsening health outcomes.
- Strain on Healthcare Systems: During a recession, the demand for public health services may increase as more people seek support due to mental health issues, substance abuse, or chronic conditions exacerbated by financial stress. At the same time, government spending cuts may lead to reduced healthcare resources, further stressing the system.

# 8) Social Services and Charitable Organizations

- Increased Demand for Social Services: Recessions lead to greater reliance on social services such as unemployment benefits, food assistance, housing support, and healthcare. As demand rises, these programs often become overstretched, and the availability of assistance may not meet the growing need.
- Pressure on Charitable Organizations: Non-profit organizations and charitable groups often face increased demand during recessions, with more people seeking help for basic needs like food, shelter, and clothing. However, charitable donations may decrease as individuals and corporations face their own financial challenges.

# IV. RECOVERING MEASURES FROM RECESSION

Recovering from a recession requires a combination of fiscal, monetary, and structural measures to stimulate economic growth, restore confidence, and address the underlying issues that contributed to the downturn. Here are some of the key recovery measures that can help economies bounce back from a recession:

- 1) Fiscal Stimulus
- Government Spending: Governments can increase public spending on infrastructure, education, healthcare, and other public goods to create jobs, boost demand, and stimulate economic activity. Infrastructure projects, in particular, can provide long-term benefits and serve as a catalyst for economic recovery.
- Tax Cuts: Reducing taxes for individuals and businesses can put more money into the hands of consumers and encourage businesses to invest, hire workers, and expand production.
- Direct Financial Aid: Governments can provide direct financial support to citizens, such as unemployment benefits, stimulus checks, or other social safety nets. This helps maintain purchasing power and consumption levels.

# 2) Monetary Policy Measures

- Lowering Interest Rates: Central banks can lower interest rates to make borrowing cheaper. This encourages businesses to invest in growth and consumers to spend and borrow more. Lower interest rates can also make it easier for individuals to refinance debt and stimulate housing markets.
- Quantitative Easing: Central banks can engage in quantitative easing (QE), which involves purchasing government bonds or other financial assets to inject liquidity into the economy. This can lower long-term interest rates, increase bank lending, and stimulate economic activity.
- Increasing Credit Availability: Central banks and financial institutions may implement measures to make credit more accessible to businesses and individuals. This includes reducing reserve requirements or providing liquidity to banks to facilitate lending.

# 3) Job Creation and Labor Market Support

• Job Training and Education: Providing job training, reskilling programs, and educational opportunities helps individuals transition into new industries or roles. This is particularly important in recessions where certain industries are shrinking, and new growth areas emerge, such as green technologies or digital services.



- Public Works Programs: Governments can create public works programs that employ people in infrastructure development, such as road construction, public transportation, or building renovations. These programs can create jobs quickly and have a multiplier effect on the economy.
- Wage Subsidies: Governments may implement wage subsidy programs to encourage companies to retain workers during a recession, preventing mass layoffs and ensuring that individuals have an income during economic challenges.

# 4) Support for Businesses

- Small Business Loans and Grants: Providing access to low-interest loans or grants for small and medium-sized enterprises (SMEs) can help them survive difficult periods, pay wages, and cover operating costs. This can prevent mass bankruptcies and preserve jobs.
- Tax Relief for Businesses: Temporarily lowering corporate tax rates or providing tax incentives for businesses to invest in growth, expand operations, or hire workers can incentivize business expansion and recovery.
- Industry-Specific Support: Some sectors may require targeted support, such as bailouts, subsidies, or government loans. For example, during the COVID-19 recession, industries like airlines, hospitality, and tourism were significantly impacted, and targeted financial assistance was provided.

#### 5) Structural Reforms

- Labor Market Flexibility: Implementing labor market reforms, such as improving labor mobility, enhancing workers' rights, or updating labor laws, can help businesses adjust to economic conditions and improve employment prospects.
- Boosting Productivity: Investing in technological advancements, improving business practices, and enhancing workforce skills can lead to higher productivity levels. Increased productivity is key to long-term economic growth and competitiveness.
- Reducing Bureaucracy and Improving Regulations: Streamlining government processes and cutting red tape can reduce the costs for businesses and make it easier to start and grow companies, which is especially important during periods of recovery.

#### 6) Stimulating Consumer Confidence

- Communicating a Clear Recovery Plan: Governments and central banks can build confidence by offering clear and transparent communication about recovery efforts. Providing assurances about fiscal measures, financial stability, and economic growth can boost consumer confidence.
- Encouraging Spending: Programs such as "buy now, pay later" or providing temporary subsidies for certain products (like energy-efficient appliances or electric vehicles) can incentivize consumers to spend. Encouraging people to resume consumption after a period of austerity is essential for recovery.
- Supporting Housing Markets: Housing policies, such as mortgage relief, can stabilize the housing market and encourage investment in real estate, which has a large multiplier effect on the economy. Support for the construction sector can also help stimulate recovery.

# 7) Global Cooperation

- International Trade: Encouraging international trade agreements and removing barriers to trade can help stimulate exports, create jobs, and promote economic growth. Cooperation among countries can lead to shared economic stability and growth.
- Coordinated Fiscal and Monetary Policies: Coordination between countries on fiscal and monetary policies can prevent a global economic slowdown. Joint efforts by international organizations like the IMF, World Bank, or regional economic bodies can facilitate support for struggling economies.

#### 8) Promoting Innovation and New Industries

• Encouraging Innovation: Investment in research and development (R&D) can foster innovation and create new industries. For example, promoting green technologies, biotechnology, or digital transformation can provide new sources of growth during recovery.



• Supporting Startups and Entrepreneurs: Governments can provide grants, tax credits, or venture capital funding to support innovation and entrepreneurship, helping new businesses emerge and expand, which can drive job creation and economic growth.

# 9) Debt Restructuring and Financial Stability

- Debt Relief Programs: Countries and businesses burdened by high levels of debt can benefit from debt restructuring or relief programs. This may involve rescheduling debt payments, reducing interest rates, or forgiving certain debts to allow entities to focus on recovery.
- Banking Sector Stabilization: Ensuring that banks are financially stable is critical for economic recovery. Central banks can provide liquidity to financial institutions and guarantee deposits to restore confidence in the financial system.

# V. CONCLUSION

Recovery from a recession is complex and multifaceted, requiring coordinated actions by governments, central banks, and businesses. A mix of fiscal stimulus, monetary easing, job creation programs, and structural reforms is needed to address both the immediate economic downturn and to build a foundation for long-term growth. The speed and effectiveness of recovery measures depend on the severity of the recession, the underlying causes, and the ability of policymakers to implement timely and appropriate responses.

# VI. RECESSION IN THA LST FEW YEARS

The world has experienced several economic recessions in the last few years, with the most notable and significant being the recession triggered by the COVID-19 pandemic in 2020. Below is an overview of the major recessions and economic slowdowns in recent years:

- 1) The COVID-19 Recession (2020)
- Trigger: The COVID-19 pandemic, which began in early 2020, caused an unprecedented global economic downturn. Widespread lockdowns, social distancing measures, travel restrictions, and business closures led to severe disruptions in economic activity.
- Global Impact: Almost every country faced a recession or economic slowdown due to the pandemic. According to the World Bank, the global economy shrank by about 3.5% in 2020, marking the deepest global recession since World War II.
- Unemployment: Unemployment rates spiked as millions of people lost jobs, particularly in the service, hospitality, and retail sectors. The International Labour Organization (ILO) estimated that the pandemic caused a 8.8% reduction in global working hours in 2020.
- Government Response: Governments worldwide responded with massive fiscal stimulus packages, such as direct payments to citizens, unemployment benefits, loans to businesses, and expanded healthcare spending. Central banks also slashed interest rates and launched large-scale monetary easing programs.
- Recovery: The global economy started to recover in late 2020 and throughout 2021, largely due to the development of vaccines and gradual reopening of economies. However, the recovery has been uneven, with some countries experiencing faster growth than others.
- 2) The Global Financial Crisis (2007-2009)
- Trigger: The global financial crisis (GFC) was primarily triggered by the collapse of the housing bubble in the United States, which led to the failure of major financial institutions and a global credit crunch. The crisis was exacerbated by risky lending practices, mortgage-backed securities, and high levels of debt.
- Global Impact: The GFC led to a severe worldwide recession, with global GDP contracting by about 0.1% in 2009. Many advanced economies, including the U.S., the EU, and Japan, entered deep recessions, while developing economies like China and India saw slower growth but avoided a full downturn.



- Unemployment and Social Impact: Unemployment surged globally. In the U.S., the unemployment rate peaked at 10% in 2009, while many European countries experienced higher rates. Social impacts included rising poverty, inequality, and a loss of wealth for many households.
- Government and Central Bank Responses: Governments and central banks responded with substantial intervention. The U.S. government implemented the Troubled Asset Relief Program (TARP), and the Federal Reserve lowered interest rates to near zero while launching quantitative easing (QE) to stabilize the financial system. Many European countries also implemented austerity measures to reduce public debt.
- Recovery: The recovery from the GFC was slow, particularly in Europe, where austerity measures hindered growth. The U.S. economy began to show signs of recovery by 2010, but it took several years for global economies to fully regain pre-crisis levels of output.

# 3) Recession in 2015-2016 (China Slowdown and Global Trade Tensions)

- Trigger: While not a global recession per se, the slowdown in China's economy in 2015-2016 contributed to a period of global economic weakness. China's transition from an export-driven economy to a consumer-driven economy caused a slowdown in growth, affecting global demand for commodities and international trade.
- Global Impact: The slowdown in China, which was the world's second-largest economy at the time, contributed to declines in global commodity prices and weak demand for goods, particularly from emerging markets. This led to a slowdown in global trade and reduced economic activity in many regions.
- Economic Growth: Advanced economies, including the U.S. and Europe, experienced weak growth in 2015 and 2016. The Eurozone, which was still recovering from the 2008 financial crisis, saw sluggish economic performance.
- Government Responses: Central banks in developed economies, including the European Central Bank (ECB) and the Federal Reserve, continued to use monetary easing, such as low interest rates and quantitative easing, to support economic activity.

# 4) Eurozone Crisis (2011-2012)

- Trigger: The Eurozone debt crisis was triggered by the accumulation of excessive sovereign debt in several European countries, particularly Greece, Portugal, Spain, and Italy. Rising bond yields and concerns about the solvency of these countries led to fears of defaults and the collapse of the Eurozone.
- Global Impact: While not a global recession, the crisis severely affected the Eurozone, leading to contractions in GDP and rising unemployment. The crisis also had ripple effects on global financial markets, leading to heightened volatility and lower growth in other economies.
- Unemployment: Unemployment in countries like Greece and Spain reached record highs, with youth unemployment rates exceeding 50% in some regions.
- Government and EU Responses: The European Union and the International Monetary Fund (IMF) provided bailout packages to countries like Greece in exchange for austerity measures. The European Central Bank (ECB) cut interest rates and launched monetary stimulus programs to help stabilize the region.
- Recovery: The Eurozone economy eventually began to recover, but the effects of the crisis, particularly in terms of social unrest and long-term unemployment, lingered for years.

# 5) Oil Price Shocks and Global Slowdown (2014-2016)

- Trigger: A sharp drop in oil prices starting in mid-2014 led to a slowdown in oil-dependent economies. While oil prices fell due to global oversupply and declining demand from China, the effect was particularly hard on oil-exporting nations, such as Russia, Venezuela, and many countries in the Middle East and Africa.
- Global Impact: The drop in oil prices caused economic contraction in oil-exporting countries, while some oil-importing countries, like the U.S. and India, saw economic benefits due to lower energy costs.
- Commodity Price Slump: Oil prices were not the only commodity affected; other commodities like metals and agricultural products also saw price declines, contributing to a broader global slowdown in trade and investment.



• Government Responses: Some oil-exporting countries implemented fiscal austerity measures, while oil-importing nations benefited from lower input costs. Central banks in many countries, particularly in emerging markets, cut interest rates to support growth.

# VII. CONCLUSION

In the last few years, the global economy has faced several recessions and slowdowns, with the COVID-19 pandemic being the most dramatic and widespread. The financial system was severely tested during the 2008 global financial crisis, and there were other significant slowdowns, such as the Eurozone debt crisis and China's economic slowdown in 2015-2016. Each of these downturns had unique triggers and impacts, but they also shared common features, such as high unemployment, reduced global trade, and government intervention. The global economy is still recovering from the COVID-19 recession, and the effects of economic slowdowns from earlier years continue to shape policies, trade, and global growth.

Conclusion:

Recession, characterized by a significant decline in economic activity, presents serious challenges for individuals, businesses, governments, and entire economies. While recessions are a natural part of the economic cycle, their impact can be profound, leading to job losses, reduced consumer spending, lower industrial production, and financial instability. For industries like agriculture, manufacturing, and services, recessions can trigger a cascade of negative effects, including reduced demand, higher costs, and financial strain. Furthermore, the social consequences of a recession are equally severe, with increased poverty, inequality, and mental health challenges emerging as key concerns.

However, recessions also present opportunities for reflection, rethinking economic systems, and implementing more sustainable and resilient practices. By adopting proactive measures such as prudent fiscal and monetary policies, strengthening financial regulation, and investing in innovation, economies can mitigate the risks of recessions and ensure more stable and inclusive growth in the future.

Moreover, addressing systemic inequalities, diversifying industries, and promoting sustainable economic practices can provide a foundation for recovery and resilience, ensuring that future recessions are less severe and that their impact on vulnerable populations is minimized. Ultimately, while no economy is immune to the risks of a recession, the key lies in preparedness, adaptability, and the capacity to evolve in response to economic challenges, ensuring long-term prosperity and stability.

Top of Form

Bottom of Form











45.98



IMPACT FACTOR: 7.129







# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 🕓 (24\*7 Support on Whatsapp)