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I relocate back to from America to Singapore this January, 2024.

The 1st period was growing up since birth (1952) and being trained in the former British Sembawang Naval Base, Singapore. Now, named Semcorp.

I was not in the country for the rest of my 2nd period of my life (50 years) and this was the peak of my life. Serviced my time in the Navy. Getting a marine engineering license and working onboard ships like Maersk Line and lived a life of being a proud Maersk engineer. In this period, I claimed another 2 more post–graduate degrees. And then living in Tokyo, Japan, then in Shanghai, China and finally in Florida, USA. This 2nd period I was working with my hands as an engineer throughout. Seriously, I meant WORKING. Because I was greasy and worthwhile to be called a greasy monkey for looking like that. I wonder if Wukong would have had agree with me?

My 3rd period began in January, 2024 when I relocated back to Singapore which is my country of birth. Now, OLD but not FRAGIL, I embark on learning Python scripts (since February) and wanting to use this new skill to do freelance to supplement my retirement payout. I had this LinkedIn account while in Shanghai but never used it. But, this platform will be an important one for me now.

What surprises me was the sleepy situation in Singapore now and the populace is unaware of the storm brewing. So I want to make some projects to do some work about the economy and the way I look at it. I don’t listen to stories. I want to tell my story.

Now, looking around me, I asked the question, *"To be, or not to be,".* I had this existential questioning. I want to satisfy my curiosity and embark on this exploration about survival, identity, and direction. In the context of Singapore, this metaphor reflects the nation’s crossroads as it faces complex challenges in the years ahead. Worldwide there were too many changes. Alas, not in Singapore.

Therefore, I will start my Python work and section into different sections listed below.

* **Time Series Analysis:** For trends in GDP, industrial production, and vacancy rates.
* **Correlation Analysis:** To see relationships between GDP growth and factors like vacancy rates, FDI, or PMI.
* **Regression Analysis:** To quantify the impact of key variables (e.g., factory vacancies, exports) on GDP growth.
* **Cluster Analysis:** To identify specific sectors or regions experiencing the most significant slowdowns.
* **Forecasting Models:** Project future GDP based on current trends in industrial activity and investment.

A few points to elaborate here. Economic trends are not purely deterministic in the same way that a physical system governed by fixed laws might be. Instead, they are influenced by a complex mix of factors, including human behavior, policy decisions, global events, and random shocks, making them somewhat unpredictable. Here’s a breakdown of why economic trends exhibit both deterministic and random elements:

**Deterministic Aspects of Economic Trends**

1. **Underlying Economic Principles:**
   * Some aspects of economics follow predictable patterns. For example, basic principles like supply and demand, inflationary pressures from excessive money supply, or the effects of interest rates on investment have well-understood consequences.
2. **Long-Term Growth Trends:**
   * Over long periods, economies tend to exhibit certain predictable trends, such as gradual GDP growth due to technological progress, population growth, and capital accumulation. These trends can be seen as "deterministic" in that they generally follow a certain trajectory over time.
3. **Policy Interventions:**
   * Government policies, such as monetary and fiscal policies, are designed to have specific effects on the economy. For example, lowering interest rates typically stimulates borrowing and investment, which in turn can boost economic growth. These policy effects are intentional and follow certain predictable patterns.

**Random and Non-Deterministic Elements**

1. **Human Behavior:**
   * Economic activity is driven by human decisions, which are influenced by a wide range of factors, including emotions, perceptions, and social dynamics. This introduces an element of randomness and unpredictability into economic trends.
2. **External Shocks:**
   * Unexpected events, such as natural disasters, pandemics (e.g., COVID-19), geopolitical conflicts, or financial crises, can disrupt economic trends in unpredictable ways. These external shocks are inherently random and can have major impacts on economies.
3. **Market Volatility:**
   * Short-term economic trends, especially in financial markets, exhibit a level of randomness similar to lottery outcomes. Stock market prices, for example, can fluctuate based on investor sentiment, speculation, or unforeseen events, making short-term predictions difficult.
4. **Feedback Loops and Complex Systems:**
   * Economies are complex systems with numerous interconnected parts, including consumers, businesses, and governments. Feedback loops (e.g., consumer confidence affecting spending, which in turn influences business investment) can create non-linear dynamics that are hard to predict.
5. **Global Interdependencies:**
   * Globalization has increased the interconnectedness of economies, meaning that economic trends in one country can be influenced by events in another. These interdependencies introduce additional layers of uncertainty and complexity.

**Correlation vs. Causation**

While certain economic metrics may move in correlated patterns (e.g., GDP growth often correlates with improvements in employment, income, and investment), correlation does not necessarily imply causation. The relationships between economic variables can be complex, and changes in one metric do not always deterministically cause changes in another.

Therefore, the above economic trends are not purely deterministic because they involve a mix of predictable factors (e.g., policy effects, long-term growth trends) and unpredictable elements (e.g., human behavior, external shocks). While economic models can provide insights and forecasts, they are often based on probabilities rather than certainties. In this sense, economic trends have both deterministic and random characteristics, making them more complex than systems governed by fixed physical laws.

For my first posting I made an analysis of the GDP of Singapore. This data is taken from SingStat. The script firstly, did a data extraction, cleaning, and plotting for manufacturing, services, construction, and GDP:

1. **Read File:** Reading the file from the path.
2. **Extraction and Cleaning**: The Python script read the data and is extracted based on the correct labels with leading spaces.
3. **Plotting**: The graph includes Manufacturing, Services, Construction, and GDP over time.

Now, that we had the graph plotted and we make some interpretations below:

1. **Manufacturing and Services**: The services sector clearly dominates in terms of contribution to the GDP, while manufacturing has a smaller but still significant role. Both sectors show growth over time, with some fluctuations. This suggests that Singapore's economy continues to rely heavily on services, with manufacturing maintaining a steady contribution.
2. **Construction**: The construction sector is much smaller compared to manufacturing and services. Construction too seems to follow normal economic cycles, with ups and downs that could be related to specific infrastructure projects or economic conditions.
3. **GDP**: The overall GDP trend shows steady growth over the years. This indicates that the economy is expanding, and the contributions from manufacturing, services, and construction are in line with this growth.

**Conclusion:**

* The graph doesn't show any unusual or extreme shifts. The small dip in all the graphs revealed the economic slowdown during the COVID 19 lockdown.
* The trends for manufacturing and services appear stable, with services leading the economic output.
* Construction seems to follow a natural economic pattern corresponding to the other graphs.

Everything seems to be progressing in a balanced manner, with service being the most important part of the economy.