



EUNOIA JUNIOR COLLEGE
JC2 Preliminary Examination 2023
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 1

9570/01

30 August 2023

2 hours 30 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.

The number of marks is given in brackets [] at the end of each question or part question.

Please note that Paper 1 takes up 40% of the total score.

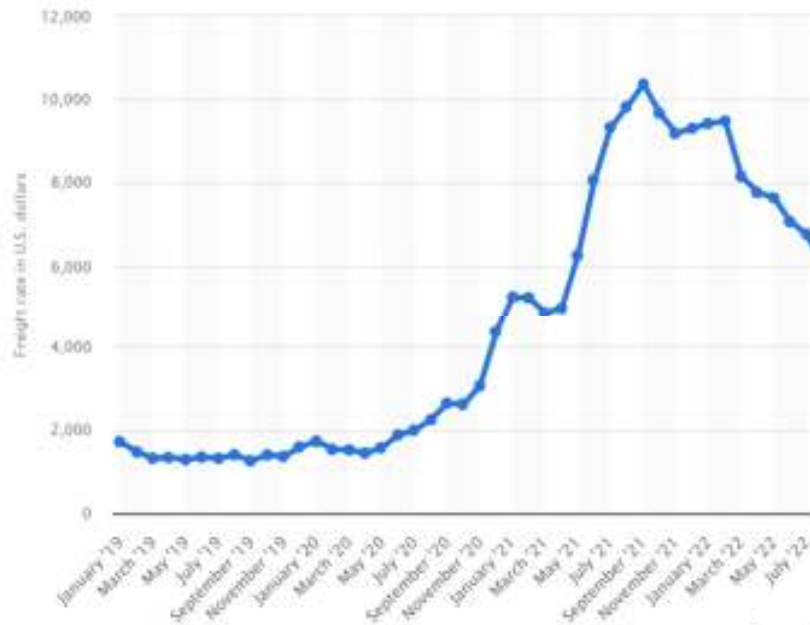
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This document consists of 8 printed pages.

Answer **all** questions

Question 1: Developments in the maritime industry

Figure 1: Global container freight rate, January 2019 to July 2022 (in U.S. dollars)



Source: Statista, July 2023

Extract 1: Suez Canal set to be blocked for weeks by stranded ship

The blockage of the Suez Canal is wreaking havoc in the global seaborne trade. About 12 per cent of global trade goes through The Suez Canal, which is one of the world's busiest shipping channels for oil and refined fuels, grain and other trade linking Asia and Europe. The blocking of the waterway is creating another setback for global supply chains already strained by the e-commerce boom linked to the COVID-19 pandemic. "A global shortage of container capacity and low service reliability from global container shipping companies... has made supply chains highly vulnerable to even the smallest of external shocks," analysts from Moody's Investors Service said.

On Thursday, 238 vessels were queued up. It's tough to come up with a single figure for how much the epic traffic jam in the canal is costing. The cost to ship a 40-foot container from China to Europe has climbed to about US\$8,000, almost quadruple the figure a year ago.

Two liquefied natural gas tankers bound for Asian markets appear to have changed course and are now making the long trip around Africa to avoid gridlock in the Suez waterway. Hapag-Lloyd is considering sending ships along the same route. Torm A/S, a Danish owner of tankers, said its customers have asked about the cost of options to divert. "The longer the Canal is closed, the larger the queue of vessels that will be caught up in jams and the bigger the losses for shipping and, ultimately, consumers of the goods which we transport," he said.

Source: The Straits Times, 26 March 2022

Extract 2: Hapag-Lloyd acquires Africa carrier NileDutch

Hapag-Lloyd successfully closed the acquisition of the Dutch container shipping company Nile Dutch Investments B.V. (NileDutch) after antitrust authorities approved the transaction.

“With roughly 350 employees from NileDutch joining our company, Hapag-Lloyd is noticeably increasing the number of employees on the ground in Africa”, Rolf Habben Jansen, CEO of Hapag-Lloyd, said. Hapag-Lloyd and NileDutch are aiming to integrate major parts of their businesses in the later part of 2021 to offer the full benefits of the combined network to their customers.

NileDutch is one of the leading shipping companies along the West African coast. Headquartered in Rotterdam, NileDutch is present in 85 locations and has 16 offices across the world, including Singapore. The company brings with it 10 liner services, around 35,000 TEU (twenty-foot equivalent unit) of transport capacity, and a container fleet with a capacity of around 80,000 TEU.

Source: CNBC Africa, 8 July 2021

Extract 3: Realities of nearshoring

Few supply chains emerged unscathed after COVID-19 disruptions. “The globalisation of production has also made supply chains more vulnerable to disruption,” warns a 2022 U.S. Council of Economic Advisers report.

The limits of geography have become evident for companies’ distribution networks. Moving some supplier sources closer to home offers a way of reducing risk. As business leaders in North America and Europe anticipate the future impact of trade wars, geopolitical turmoil, factory shutdowns, logjammed ports, and demand volatility, the appeal of nearshoring (moving sources of supply closer to HQ or end customers) has crystalised.

Nearshoring can enable greater control and more frequent site visits, fewer cultural barriers, and better communication. Reductions in logistics costs and lead times can also free up working capital that is tied up in cash outlays to suppliers and inventory in transit.

Nevertheless, some companies and sectors may not have the infrastructure necessary to support immediate nearshoring. Industry consolidation in some sectors, such as semiconductors, means that sourcing is limited to a handful of suppliers and even fewer geographies. A report by Bank of America indicates that the total cost for U.S. and European companies to shift all export-related manufacturing not intended for Chinese consumption out of China would be \$1 trillion over five years.

Availability of talent is another concern. Companies have spent decades moving capabilities and knowledge offshore, and they can’t bring that back overnight. “Operations are increasingly more automated and leverage new technologies, which requires less people but with higher specialisation in areas like AI and Internet of Things (IoT). And there’s a talent gap across the globe that can limit organisations on their ability to pivot at scale.” says Michel Roger, managing director in Accenture.

Nearshoring is a long-term move. Making a decision based solely on the most recent supply or demand shock or current geopolitical turmoil is a bad idea.

Source: Richard Howells and Stephanie Overby, SAP.com

Extract 4: Tuas Port – A smarter and greener port

Defined for two centuries by its status as one of the busiest and most strategically important maritime hubs, Singapore, which sits on the trade route between Asia and Europe, is busy reinventing itself as a global centre for excellence in electronics, manufacturing, energy, chemicals and financial services. In 2019, the maritime industry accounted for 7% of Singapore's GDP and 170,000 jobs.

Upon completion, the new Tuas Port will be the world's largest container terminal, with a total capacity of up to 65 million TEUs, compared with the combined 50 million TEUs capacity of their five current port terminals.

"The Singapore Government is investing ahead to cater for future growth in container-handling demand to meet the needs of shipping mega-alliances. The consolidation of five terminals into one mega-terminal will help achieve greater economies of scale, which will in turn enable container lines and cargo owners to save time and reduce operating costs" says Er Tham Wai Wah, chief engineer and senior director, Maritime and Port Authority of Singapore (MPA).

Tuas Port will be an automated, intelligent, and sustainable port. To drive the adoption of digital technologies, MPA is developing the digitalPORT@SGTM to enhance efficiency of port operations and reduce turnaround time of ships. Within Tuas Port, automated guided vehicles (AGVs) will be used to transport containers between the yard and the wharf. These port operations will be managed remotely from the Tuas Port Control Centre, freeing up resources while creating more higher value and good jobs for Singaporeans.

However, while efficient ports are vital to economic development, shipping has an environmental impact both in ports, as well as in the immediate vicinity of the ports. Examples are noise from ship engines and machinery used for loading and unloading and exhausts of particles from ships' main and auxiliary engines. Road and rail traffic to and from the port area cause additional environmental problems.

Reducing the impact of a large-scale, invasive project on the marine environment was a concern. To preserve marine habitats, environmental impact assessments were conducted. "In reclaiming the land needed for the port, MPA pioneered the use of recycled materials from construction projects, which is not only eco-friendly but also allowed us to achieve cost savings of more than S\$2billion", Wai Wah says.

In addition, Tuas Port aims to achieve net zero emissions by 2050. Besides electrified equipment and AGVs which reduces carbon emission by about 50% compared to current diesel prime movers, PSA will also use a smart grid management system and construct green buildings. For example, the Tuas Port's first super low-energy building uses 58% less energy compared to other similar-sized buildings as it generates solar energy to offset its electricity consumption.

Sources: Julian Turner, Ship Technology | Maritime and Port Authority of Singapore

- (a) Using Figure 1 and Extract 1 and a diagram, explain the change in global container freight rates as a result of the blockage of the Suez Canal. [2]
- (b) Explain the likely value of price elasticity of supply of maritime shipping services. [2]
- (c) (i) Explain what is meant by productive efficiency from society's perspective. [2]
- (ii) Explain whether Hapag-Lloyd experiences economies of scale from the acquisition of NileDutch. [4]
- (d) Discuss whether nearshoring is the most appropriate strategy to increase firms' profits amidst the COVID-19 supply chain disruptions. [8]
- (e) (i) Explain why Singapore has comparative advantage in the production of maritime shipping services. [2]
- (ii) Discuss the extent to which the development of Tuas Port can allow Singapore to achieve sustainable economic growth. [10]

[Total: 30]

Question 2: Digitalisation and unicorns

Extract 5: ASEAN and the digital transformation

The digital transformation of society refers to social, cultural, and organisational changes in society realised through the smart integration of digital technologies, processes, and competencies across all levels and functions. Human resources development is an important investment in an economy's talent base that will ultimately produce a stronger and more effective workforce. When an economy or society develops its talents, it is strengthening its assets and making these talents even more valuable. This makes forward-looking human resource development a strategic priority for ASEAN, referring to learning interventions at the various stages of education, namely early, secondary, higher, vocational, and continuing education programmes.

The career prospects of those aged 18 to 29 years old have been the ones greatly affected by the COVID-19 pandemic. This calls into question the readiness of youth to participate fully in the digital transformation, given persistent challenges, such as the middle-income trap and a continued focus on efficiency, rather than innovation. Considering that youth are generally already adept with technology, the first step is to transform this agility into something productive for the economy, society, and environment. This means gradually addressing youth skill gaps, including in technical IT skills, 21st century skills (e.g., problem solving, critical thinking, fostering creativity and innovative mind-sets), and building proficiencies in new technologies (e.g., AI, big data, etc.). There is also a growing need to emphasise adult training and lifelong learning. Given disruptions to the job market brought about by the transformation, many workers in the future will need to acquire multiple jobs. Online education and training will provide youth with access to the educational opportunities and equip them with the multiple skills required to thrive under the digitalised economy.

Adapted from: ASEAN.org, 6 Oct 2021

Table 1: Selected data for Singapore and Malaysia

	Singapore	Malaysia
Human Capital Index (2020)	0.88	0.61
Real GDP per capita (current USD) (2021)	77,710	11,109
Labour productivity growth rate (%) (2021)	9.5	1.8
Number of unicorns in economy	14	1

Sources: Various, accessed on 7 Aug 2023

Extract 6: Singapore No. 1 out of 157 countries in World Bank Human Capital Index

Singapore has emerged top in the inaugural World Bank Human Capital Index (HCI), which measures the human capital that a child born today can expect to attain by the age of 18. The index defines human capital as the knowledge, skills, and health that people accumulate over their lives. The HCI comprises three components: Survival of children to school age, the quantity and quality of education, and health.

According to the World Bank, the HCI "reflects the productivity as a future worker of a child born today, compared with what it could be if he or she had full health and complete, high-quality education", which is measured on a scale of zero to one — one is the best possible score.

Singapore's score of 0.88 is the highest among the 157 countries on the HCI for 2018. Over in South-east Asia, Vietnam (48th spot) is the second highest ranked country after Singapore with a score of 0.67. Malaysia is third in the region at 55th.

The World Bank said that human capital has been the "key factor for sustained economic growth and poverty reduction rates" in many countries in the 20th century, particularly in East Asia.

"Human capital is the key driver of sustainable, inclusive economic growth, but investing in health and education has not gotten the attention it deserves", said World Bank Group President Jim Yong Kim.

Source: TodayOnline, 11 October 2018

Extract 7: More ASEAN start-ups became unicorns thanks to robust funding

More start-ups in South-east Asia have attained unicorn status - valuations of US\$1 billion or more - in the past couple of years, driven by factors such as robust funding and rising middle class. In 2021 alone, 19 new firms in the region saw an increase in valuation to above US\$1 billion, according to a report on ASEAN start-ups by Credit Suisse earlier this month.

Fifteen start-ups in Singapore and 11 in Indonesia account for the lion's share of the region's 35 unicorns. Among recent additions to the Republic's list of unicorns are used car market Carro and logistics firm Ninja Van.

Credit Suisse's list excludes start-ups that are in the process of public listing, such as super app Grab, which is headquartered in Singapore. As of August 2021, Grab's total valuation is US\$14.3 billion. Founded in 2012 as a ride-hailing company, the firm expanded into other services such as food delivery and financial services. Grab led innovation in Singapore and South-east Asia. During the pandemic, ride-hailing drivers and delivery riders benefited from more flexible work schedules in addition to providing convenience for consumers in the ride-hailing market.

The report attributed robust growth in the number of ASEAN unicorns to several reasons: demographics, expanding middle class, increase in smartphone and data usage, and digitalisation.

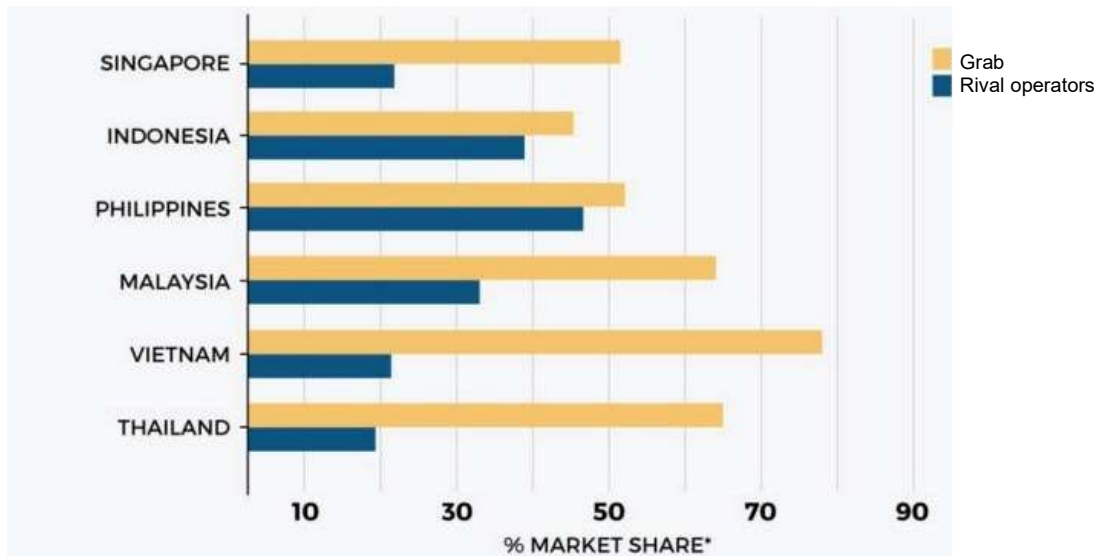
It noted that some of the ASEAN-6 countries - Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam - have among the youngest demographics in the world, which means that the region is likely to be more willing to adopt new technologies. The rising middle class is linked to the consistent increase in gross domestic product per capita over the last decade.

Singapore is generally viewed as a favourable place for raising capital, due to reasons such as its high levels of corporate governance and high average household income level. Governments in the region have rolled out policies like competitive corporate tax rates and initiatives to promote digital payments, with the intentions of boosting non-cash usage and financial inclusion.

"Consequently, a virtuous cycle may ensue, where increased growth will lead to greater investment and further development of the ecosystem that will in turn produce more company founders or co-founders or chief executives in South-east Asia."

Adapted from: The Straits Times, 21 October 2021

Figure 2: Market share comparison between Grab and its competitors (2020)



*% of ride-hailing app customers who say they use Grab (or its nearest rival) most often.

Source: Medium.com, accessed on 7 Aug 2023

- (a) Suggest an example for (i) fixed capital and (ii) human capital. [2]
- (b) Using a production possibility curve diagram, explain the impact of 'human resources development' (Extract 5) in an economy in the long run. [2]
- (c) Explain how real GDP per capita could have led to the corresponding Human Capital Index as shown in Table 1. [4]
- (d) (i) Explain the impact of the entrance of unicorns like Carro on the market for used cars. [4]
- (ii) Discuss how the growth of Grab affects the level of welfare in society. [8]
- (e) Discuss the extent to which government investment in digital transformation projects creates conflicts between macroeconomic objectives. [10]

[Total: 30]