PJC 2018 H2 P2 Question 3:

There are various types of market failure. Market failure provides one of the major justification for government intervention in the economy.

Source: John Sloman, Economics, 6th Edition

a. Explain how market dominance and immobility of factors of production in a country can lead to market failure. [10]

b. Evaluate the policies currently used by the Singapore government to correct these types of market failure. [15]

a) Explain how market dominance and immobility of factors of production in a country can led to market failure. [10]

Market failure occurs when the free market fails to achieve allocative efficiency. It fails when resources are not perfectly mobile, or when firms have market power.

Immobility of factors of production may lead to allocative inefficiency and hence market failure. Factors of production such as labour may be geographically or occupationally immobile.

Geographical immobility may occur because of the high cost of relocation. This prevents labour from moving from areas with high unemployment to areas facing a shortage of labour. As such, workers remained unemployed. The economy is producing within the PPC, i.e. there is unemployment. This leads to wastage of resources (productive inefficiency), and less resources are thus channelled into the production of goods and services that will lead to greater societal welfare. Productive inefficiency implies allocative inefficiency, with the former a prerequisite for the latter.

Occupational immobility occurs because of a mismatch between workers' skills and job requirements. Workers current specific job skill may not be able to respond easily to changing demand conditions. For example, retrenched workers from the electronics manufacturing industry in Singapore do not have the necessary skills required for them to find jobs in the growing infocomm sector (structural unemployment). Labour may thus be put to inefficient use, instead of being allocated into markets where the labour is needed most. There is thus inefficient allocation of resources, with too little resources being channelled into the infocomm sector in this example. Thus immobility of factors of production causes market to fail.

Market dominance may lead to allocative inefficiency and hence market failure.

Market dominance due to high barriers to entry allows existing firm to have a large market share and hence possess significant market power to set price. The firm faces a downward-sloping demand curve.

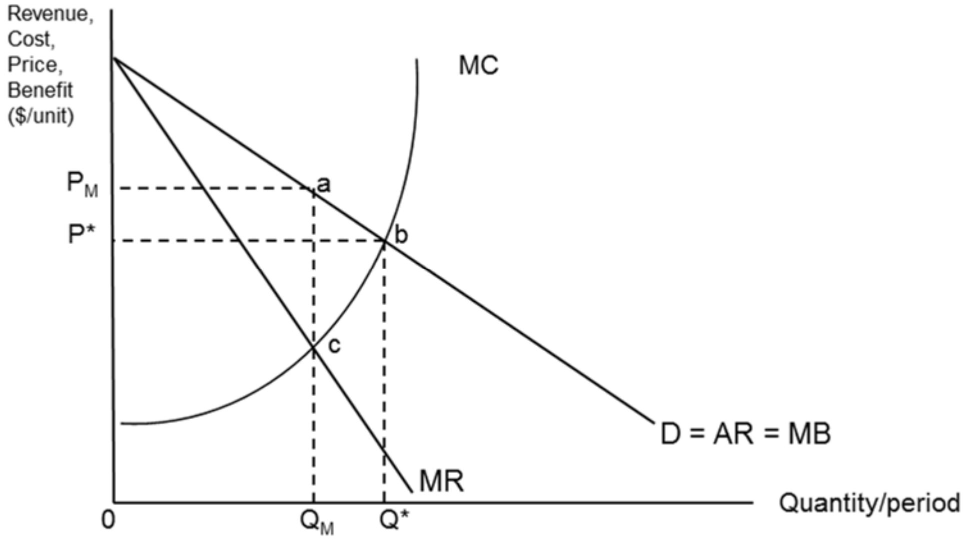

Fig. 1: Revenue and cost curves of a firm with market power

Profit-maximising firms would produce Q_M where MC = MR and charges the maximum possible price it can, P_M (indicated by DD curve).

However, in the absence of externalities, socially optimal output Q* is where MC = MB. Since Q_M is less than Q*, there is underproduction of the good by a firm with market dominance. Producing Q_M to Q* units incurs a total benefit of Area abQ*Q_M, and incurs a smaller total cost of Area cbQ*Q_M. There is thus welfare loss of Area abc (net benefit not gained) as too little resources is channelled into the production of the good. Market dominance thus causes market to fail.

Immobility of factors of production and market dominance may also lead to *inequity*.

In countries where the economy is transitioning between industries e.g. from secondary industries such as the manufacturing of textile to tertiary such as infocomm services, the income gap between workers in declining industries and growing industries is likely to grow. This is because demand for labour will be rising in the expanding industries thus driving up the wage rate while demand for labour in the contracting industries will be falling, pushing down wage rate. As long as labour is immobile, the wage gap will not be able to narrow. If workers are immobile, lacking the necessary skills or willingness to find jobs in growing industries, they may earn less and be less able to afford goods and services. This may result in a less equitable distribution of goods and services within a country.

In the case of market dominance, prices tend to be higher when firms have market power, i.e. P_M in Fig. 1 than without, i.e. P*. For necessities, e.g. electricity, this can lead to poor households being unable to afford the good, leading to a less equitable distribution of the good.

Firms with significant market share because of high barriers to entry are also likely to earn sustained supernormal profits. This can lead to greater inequity as the firm owners receive more profit at the expense of consumers, who may be earning lower income than the firm owners.

Conclusion

In conclusion, market fail due to market dominance and immobility of factors of production. Thus, government intervention is needed to reduce the extent of market failure in order to achieve efficiency.

Part (b)

Evaluate the policies currently used by the Singapore government to correct these causes of market failure. [15]

The Singapore government has intervened in these cases of market failure through the use of various policies. Policies used will be evaluated in terms of their effectiveness, taking into consideration any unintended consequences that may have resulted.

To deal with market dominance, anti-competition regulations have been implemented in Singapore to prevent dominant firms from anti-competitive behaviour. The Competition Commission Singapore (CCS) identifies firms that have violated the regulations, and have the capacity to impose fines and enforce regulations. This may include collusive agreements between dominant firms in an industry, or anti-competitive mergers that can led to a substantial lessening of competition. Collusive agreements can lead to prices being fixed or output restricted to increase prices, leading to an even greater degree of underproduction and higher prices for consumers. Anti-competitive mergers can lead to even larger firms that have greater market power, allowing them to charge higher prices.

An example of government intervention includes preventing Parkway Holdings from acquiring outpatient diagnostic chain RadLink Asia. This increases the level of competition between firms in Singapore, so that demand facing each firm will be lower and more price elastic because of increase substitutes. This will prevent firms from attaining higher levels of market power, which can cause markets to fail as explained in (a).

The Singapore government has also been encouraging competition to reduce market dominance in certain industries through deregulation. One such example is the deregulation of the telecommunications industry by allowing Starhub, M1 and recent addition TPG Telecom to enter the industry previously dominated by Singtel.

With new entrants into the industry, existing firm such as Singtel will face a falling and more elastic demand due to more substitutes available. Both output and prices that it can charge will also fall, making it more affordable for households to purchase the good or service.

However, if firms produce at a lower output, it can mean the loss of potential internal economies of scale (EoS). In particular, this applies to industries with significant internal EoS to be enjoyed, e.g. telecommunications where start-up costs are high. Spreading the high start-up cost over a larger output will lead to lower average costs. The loss of internal EoS may hinder the firms from competing with MNCs in Singapore, or with firms worldwide if the goods or services are exported. It may also lead to higher prices for households if the firms become less able to pass on cost savings to consumers.

As such, there is a need to strike a balance between liberalising the market and making sure firms can enjoy significant internal EoS to benefit society. To that end, the Singapore government has been effective in doing so as seen in its intervention in the banking industry. While it deregulated the banking industry by allowing the entry of more foreign banks, it also allowed some of the local banks to grow through mergers and/or acquisitions to reap internal EoS, e.g. spreading out of advertising cost, managerial internal EoS from having one manager oversee a bigger department.

Both deregulation and mergers are significant to keeping the power of oligopolies in check, which is likely the predominant source of issues of market dominance in Singapore.

n the case of public transportation (bus, train), prices are regulated to keep them affordable for the masses. This leads to a more equitable distribution of services.

However, this may hurt consumer welfare as it may cause public transport companies to have less incentive to improve on services as they earn less supernormal profits.

For industry such as rail transport which is a natural monopoly which have extremely high start-up cost, e.g. cost involved in the building of rail infrastructure, such that minimum efficient scale is reached at an output that is very large relative to level of market demand, encouraging competition is impossible since the presence of more than one firm will lead to losses for both.

Given that it is a natural monopoly, the Singapore government regulate through issuing only 1 license per track and regulated price in the industry to ensure that monopoly price is not being charged to protect consumers welfare. The government seems to have opted for AC pricing since MC pricing will lead to losses for the company.

While AC pricing means the government need not subsidise losses, the output produced is still not allocative efficient. However, the output where P = AC is larger than the output where MC = MR, and thus the new output has still led to improvements in efficiency.

Such regulations keep existing firms on their toes given that licences expire, and firms can be fined in the event of breakdowns.

Transport vouchers are also given to lower income households who qualified to help them cope with affording public transport services.

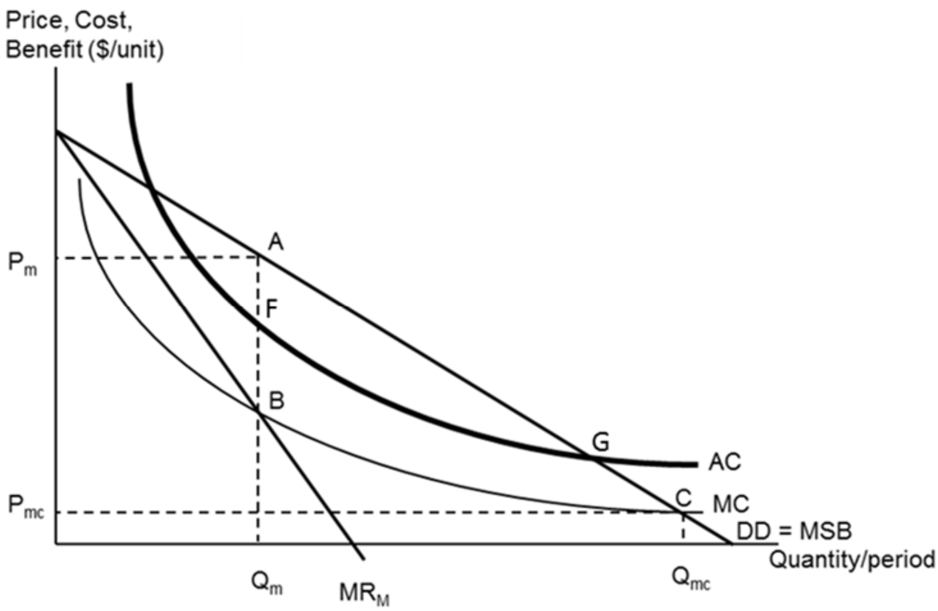

Figure 2: A natural monopoly e.g. rail transport in Singapore

Nationalisation such as for water is one other way the government tackles the issue of market dominance. With the government being the producer of the good or service, production is likely closer to socially optimal output (i.e. produce where P = AC to improve efficiency and avoid subnormal profits) since the government is not a profit-maximiser.

X-inefficiency due to lack of profit motive is not likely to be a significant issue for Singapore, since the government and state-owned firms are generally efficient and will seek to minimise cost.

Measures to deal with immobility of factors of production:
Geographical immobility is not a significant problem in Singapore, given the small size of our island and relatively well-connected transport system.

The key measure implemented in Singapore to tackle occupational immobility of labour is **subsidising training programmes**, e.g. SkillsFuture, to increase the skill level of workers. Subsidising training programmes encourage workers to go for training since it is now cheaper to do so. If successful, this can reduce the mismatch between workers' skill set and job requirements. This will help them transit to jobs that is required by society, improving on efficiency in the allocation of labour resources.

However, this is dependent on workers' willingness and ability to go for the training. This may be an issue particularly for older workers.

In spite of this limitation, skills retraining is still the right policy that the Singapore government has chosen to adopt over the other possible policies as it tackles the root cause of the problem. In particular, occupational immobility has become an issue of concern in recent years due to globalization which sees Singapore continues to transit into high-value knowledge based industries.

The increasing pace of globalisation may also mean that available jobs and their requirements may be changing faster than workers can train for. As such, there may still be a need for social safety nets to improve to help occupationally immobile workers cope with rising costs of living to ensure that they can still consume basic necessities.

To sum up, there is a great deal of government intervention in Singapore economy. Policies adopted so far have not only been appropriate in enhancing the competitiveness, efficiency in the market, but also ensure equity.