



Partner Pre-Case 2019



MINISTRY OF FINANCE

ABOUT THE MINISTRY OF FINANCE

The Ministry of Finance supports the government in pursuing a sound economic policy, enhancing growth and productivity and ensuring efficiency in the public sector.

This includes:

- The government's Finance Act and ongoing budget analyses
- Analyses of macro-economic developments
- Ensuring well-functioning markets through effective regulation
- International economic co-operation
- Negotiations concerning financial and economic issues with local authorities and the county authorities
- Administrative policy contributing to ensuring efficient public institutions

The Ministry thus plays an important role in underpinning economic development through contact with Ministries, agencies, NGOs, and other external partners. A large part of the job for an economist employed at the Ministry of Finance is therefore focused on initiatives, reforms and various policy matters founded on well-rounded analyses that are the hallmark of how the Ministry solves problems and attain wholesome solutions.

As a newly educated economist employed in the Ministry of Finance, you will get to use both your analytical toolbox and stringent approach, while getting to know different interesting subject fields in the process, and applying your general understanding of economic interactions.



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USAGE OF PUBLIC INVESTMENTS TO AVERT RECESSIONS

The Danish economy, like all other countries, is subject to fluctuating periods of high and low activity and employment. It is a main objective of the Ministry of Finance to monitor the current state of the economy, and ensure that fiscal policy is planned in accordance with the current business cycle.

Various measures can be taken to stimulate the economy as a mean to avert a recession. Theoretically, both fiscal and monetary policy can be used to counteract fluctuations in business cycles. This

year's Partner Pre-Case only focuses on the fiscal aspects, as Danish monetary policy is constrained by the fixed exchange rate policy.

In the past, public investments and public spending have been used as active fiscal policies, alongside various tax reforms. With that in mind, you will be asked to analyse a specific potential public investment in relation to the current business cycle and ultimately provide the Minister for Finance with your assessment of the investment itself and, in particular, your recommendation of the appropriate timing.



FACTS ABOUT BUSINESS CYCLES

Business cycles describe fluctuations in economic aggregate variables consisting of an expansion followed by a contraction of the economy. It can be observed in many variables, but the effect on the economy is largely described by fluctuations in GDP and employment. A recession is characterised by two consecutive quarters of negative real GDP growth rates.

INVESTMENTS AS COUNTERMEASURE TO BUSINESS CYCLES

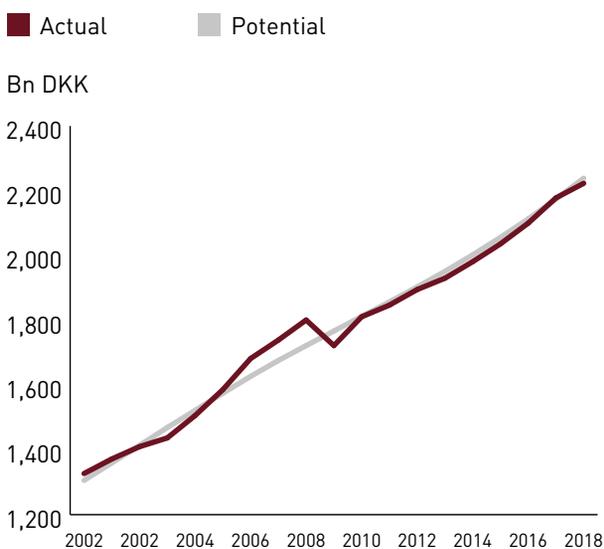
From an economic viewpoint, the main purpose of large public investments in infrastructure is to increase the public capital stock or to maintain existing infrastructure. However, in addition to considering the socio-economic value of a specific investment project, it is worth considering the timing of it.

There can be direct benefits of investing in a recession, as investing in a contracting economy

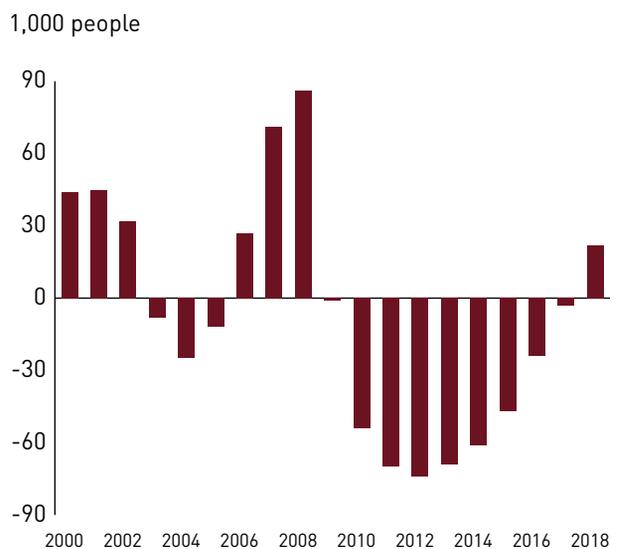
can help stimulate the economy through aggregated demand. Investing in an already expanding economy, on the other hand, can increase capacity pressures and result in an increasing risk of overheating the economy. Note, that this does not imply that no new projects can be decided on or implemented during an economic boom. If a project of significant value is identified, one could choose to cancel or postpone other investments, such that the total public investment activity remains unchanged in a given year.

Public investment projects are temporary by construction but may add lasting value to the economy by raising the capital stock. In contrast, a temporary increase in public consumption will only add value during the period of increased public consumption. This can be an argument in favour of using public investment – instead of public consumption – as a tool for stabilizing the economy during economic downturns.

Structural and actual GDP



Employment gap



Note: 2018 reflects the Danish governments forecast from December 2018. Source: Ministry of Finance

It can, however, be noted that there is a great deal of uncertainty related to the timing of public investments. There are risks of delay of public investment – either in the planning or construction phase – which pose a threat of mistiming the active fiscal policy, if the growth environment changes during the process. Furthermore, if the forecast of the output gap is wrong, then trying

to implement stabilizing fiscal policy may end up destabilizing the economy.

Note that active fiscal policy can only be implemented within the constraints of the budget deficit limit and the expenditure ceilings, as described below.

BUDGET DEFICIT (0.5% OF GDP)	EXPENDITURE CEILING
<p>According to the Budget Law and the Stability and Growth Pact, the government's structural deficit cannot exceed 0.5% of GDP on a yearly basis and the actual budget deficit cannot exceed 3% of GDP.</p> <p>It is permitted to deviate from the deficit limits in the case of an extraordinary event, such as a severe economic downturn.</p>	<p>The state, the municipalities and regions are all subject to expenditure ceilings which cover public consumption, social benefits and various other expenditures. The ceilings are adopted by parliament and cover a rolling 4-year period.</p>
<p>Affects the possibility of using investment as countermeasure in cases where the structural or actual deficit is close to the deficit limit.</p>	<p>Does not affect the possibility of using investment as countermeasure. Affects the possibility of using public consumption as countermeasure.</p>



HELSINGØR-HELSINGBORG TUNNEL (HH-CONNECTION)

Greater Copenhagen has been a hub for large and international corporations; partly supported by the mobility of the labour force between Denmark and Sweden. The permanent Øresunds-connection has been a major driver of this cross-border collaboration but recently the traffic in the region has increased. Therefore, there has been serious considerations and investigation of a new permanent connection across the strait.

Politically, the project proposal of a new permanent connection has been met positively by members of the affected municipalities and regions on both sides of the border. Some have expressed concerns over the environmental impact and socio-economic factors; hereunder on employment. Despite these concerns, the affected parties are putting pressure on the Danish and Swedish Ministries of Finance, the Danish Ministry of Transport, Building and Housing and the Swedish Ministry of Enterprise and Innovation to go through with the project.

The permanent connection will consist of a highway tunnel south of Helsingør and Helsingborg and a railroad tunnel passing through the harbours on either side. There has been conducted an Environmental Impact Assessment of the project, resulting in some key economic insights of the project, cf. table I. Note, that these figures only correspond to the Danish expenses and gains of the project.

You are a team of Head of Section employees in the Division for Economic Policy in the Ministry of Finance. Recently, there has been a public debate about the HH-connection. The Minister for Finance is invited to Deadline on DR2 tonight where he will discuss the possibilities of initiating the new highway project. You are asked to perform an analysis on the matter based on the characteristics of recessions, give a detailed outline of the project at hand including the financing and to discuss the socio-economic aspects. You must give a concise and specific recommendation for the Minister for Finance to use in the programme.



TABLE I: HH-CONNECTION

	Effects of new investment
Construction period	6 years
Life span for the project	50 years
Internal rate of return	8 per cent
Socio-economic gain (NPV)	30 bn DKK
– Hereof construction cost	-19 bn DKK
– Hereof scrap value	3 bn DKK
– Hereof time gains for private transportation	17 bn DKK
– Hereof time gains for business transportation	18 bn DKK
– Hereof transportation and operating costs etc.	- 4 bn DKK
– Hereof external consequences (accidents, noise, air pollution, climate)	1 bn DKK
– Hereof consequences for taxes and duties	10 bn DKK
– Hereof labour supply*	4 bn DKK

Note: The given values does not reflect an actual project at hand and is based on previous calculations.

* Using labour supply gain for the specific investment in the model from the Ministry of Transport, Building and Housing, TERESA, on this specific project yields a present (gross) value of the labour supply of roughly 4.3 bn DKK. Any potential labour supply distortion are neglected in this stylized example as a results of the finance funding of the investment is neglected in this stylized example.

Source: Ministry of Finance



OVERALL PROBLEM

You are expected to thoroughly cover the following three aspects:

CASE QUESTIONS

1 The effects of public investment on the economic environment in general

Explore counter-cyclical potentials of public investments on GDP and on the employment rate. You can consider the following aspects (but feel free to include more):

- Time horizon of large public infrastructure investment projects: Due to the long process of negotiating, planning and carrying out the project, there is a risk that the business cycle effect of public investment is delayed compared to public consumption.
- Fiscal multipliers: Consider the direct and indirect effects of the investment, including the fiscal multipliers.

Make sure to include considerations about how to avoid simply increasing the level of public investments or spending permanently.

Allude to the project in hand; particular to the timing of the project, but you are not expected to give an estimate of when a potential recession will occur.



2 Financing

Carry out an analysis where you choose the most suitable financing plan. Things to consider are:

- The risks associated: In particular the risks that the Danish state potentially faces.
- The incentive structure of the firm that carries out the investment (It is important that the investment is efficiently executed both in the construction and operation phase).

Frequently used finance models for public infrastructure projects are specified on page 10.



3 Socio-economic matters of the HH-connection

An investment of this size is bound to have consequences for the affected communities. Your recommendation must highlight the potential gains or losses of the new tunnels. Is it a good idea to go through with the investment?

You are expected to support the Minister for Finance with arguments for your recommendation of the project and to prepare him for a debate on a local, national and regional level. The arguments are not needed to be based on a quantitative analysis, but it is crucial for the debate that the Minister for Finance has strong talking points on the socio-economic aspects.

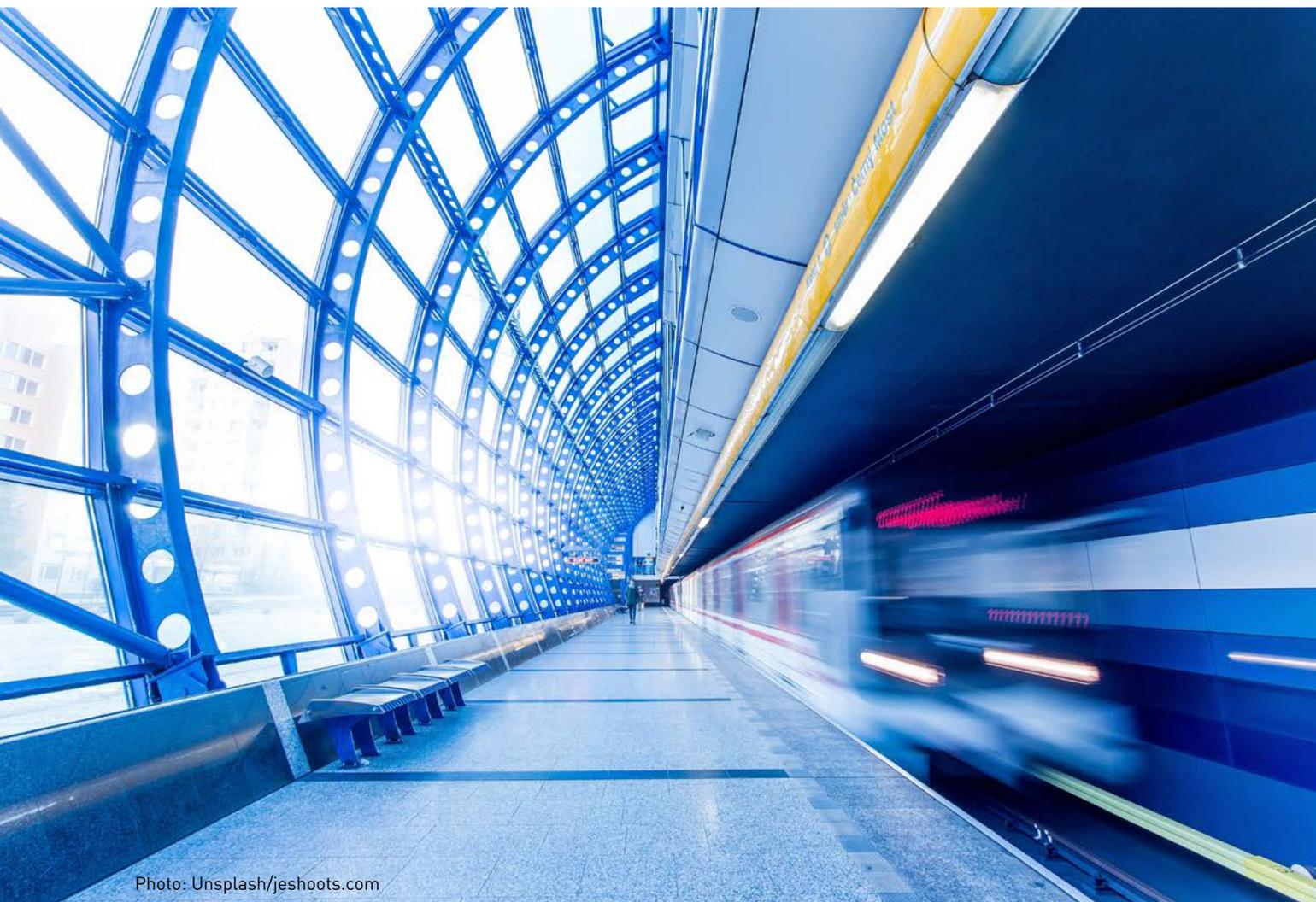


Finally, it is important, that the Minister for Finance does not stumble upon arguments and potentially fails to address the project's potentials. Therefore, you must include a section in your presentation in which you emphasise the recommendation that you find most suitable to answer the question.

DATA DESCRIPTION

The dataset contains fiscal multipliers from the Ministry of Finance. Additionally, the levels of structural and actual GDP are included alongside figures for employment. Note that the data for 2018 is the Governments short term forecast for the Danish economy.

You can answer the question with the data provided. You are welcome to include any additional data you find suitable.



APPENDIX – FINANCING

STATE GUARANTEE MODEL

A 100% state owned firm is established with the responsibility of the design, construction, financing, running and maintenance of the project. The firm borrows money on existing capital markets with guarantee of repayment from the Danish State. This enables the firm to get favourable conditions, as the risk of repayment is covered by the Danish state with a high credit rating.

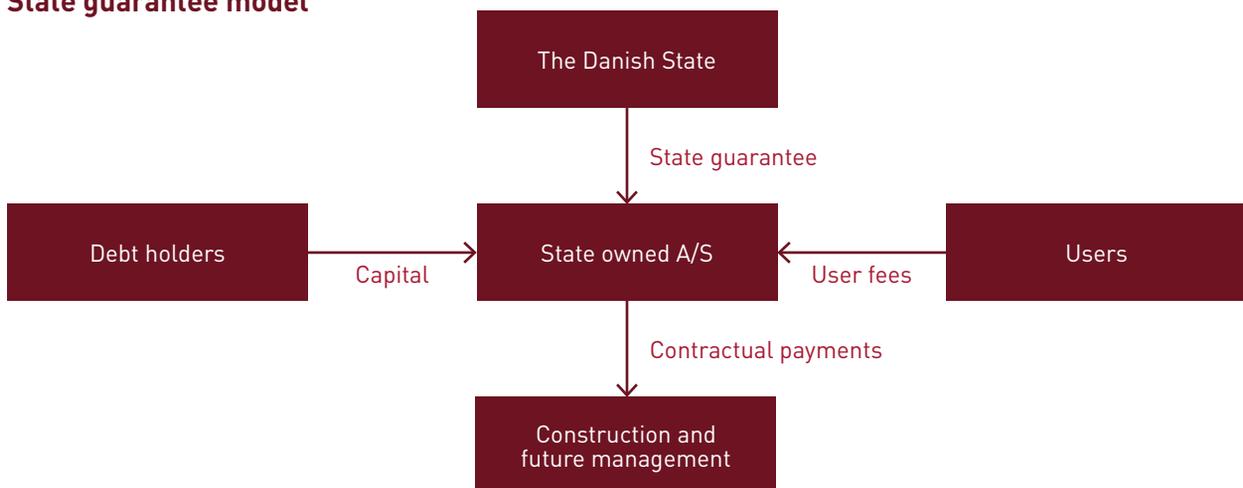
The loan is repaid by user fees and only in the case of the firm not being solvent or the project failing altogether, the Danish state covers the repayment. The structure is illustrated below.

The advantages of the state guarantee model are that it allows for a cheaper project compared to a case where a private firm would borrow money

without a government guarantee. It can also be desirable in the likely event that a newly created firm cannot raise the required capital for such a large investment project. Hence, the model can provide consumers with lower user fees, and little or no money will be taken from the federal budget, at least not at the time of investment.

However, all the risk of the project is covered by the Danish state. This can lead to a situation where the Danish state has to cover all the costs of the project – or ultimately let the consumers cover the costs in terms of higher fees. It alters the incentives for effective management of the project, as compared to a situation where the firm is privately owned. Examples: A/S Storebæltsforbindelsen (Sund & Bælt Holding A/S) and Det Danske Klasseslotteri A/S.

State guarantee model



DBOF-MODEL (DESIGN, BUILD, OPERATE AND FINANCE)

The Danish State signs a contract with a private firm (or a consortium) in which they will be in charge of the design, the construction and the financing of the project. The consortium can consist of private as well as public firms. The firm runs the project after construction for a given time period, where the ownerships of the project is transferred to the state at a predetermined price.

Normally, there are no user fees with a project based on the DBOF-model. The firm then only collects cash in form of the contract obligations made with the state. However, a possible alteration of the model is to add ongoing user fees (illustrated by the dashed line below).

The model is supposed to yield a high level of innovation, as the contractor can increase his/her margin by carrying out a more effective process. The

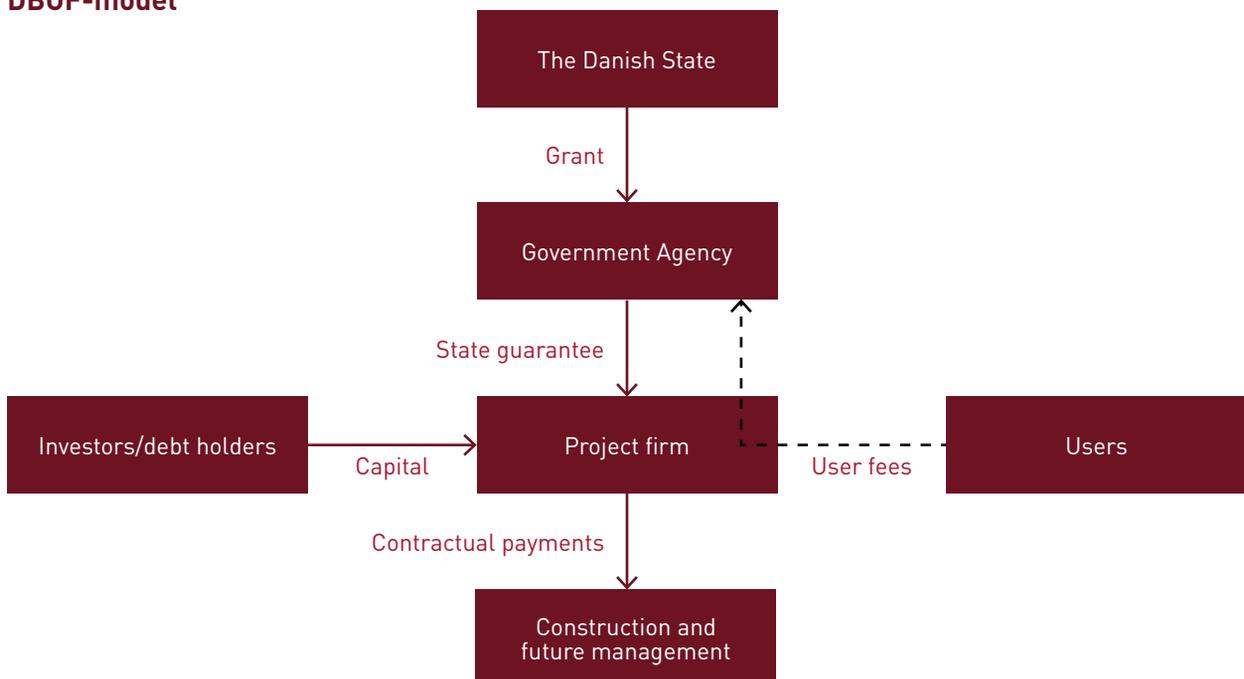
Danish state can establish a higher or lower level of requirements of the project, thereby enabling the contractor to adjust the project to fulfil the requirements in the best possible way. A drawback compared to the state guarantee model is that it can be a more expensive solution, as the credit conditions that apply are those of a private firm with the risk involved. Examples*: Østre Landsret and Flintholm Svømmehal.

OTHER SOLUTIONS

Finanslovsmodel

The project is offered as a turnkey contract in a Government agency that is in charge of the construction. After construction, the Danish state owns and runs the project (though the administration and management is often leased to a private firm). Examples: DSB and Danmarks Radio.

DBOF-model



*The DBOF-model related to projects, where the contract covers the construction, financing, management, and maintenance. In the two examples given, the contracts are signed for 20 years.

Statsejet I/S

A firm owned by the Danish state (partly or 100%) is established with regards to all aspect of the project. The firm operates like any other private firm in relation to all subjects. Examples: Metroselskabet I/S** and Udviklingselskabet By & Havn I/S***

You are more than welcome to suggest any other kind of firm structure or any combination that you find suitable.

** Københavns Kommune (50%), Danish State (41.7%) and Frederiksberg Kommune (8.3%).

*** Københavns Kommune (95%) and Danish State (5%).



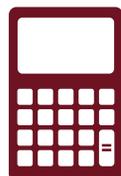
FORMALIA

FINAL REMARKS

- Hand-in is March 11 at 22.00 latest, where each team must send a presentation in PDF (16:9-format) to **submit@politicasecompetition.com**
- Submit a PowerPoint presentation with a maximum of 6 slides, including front-page and your recommendation.
- The slides must be in English, and readable on their own. Remember that the judges initial screening of your solution is based on slides only.
- Based on the slides, three teams are selected to present their solution at the Ministry of Finance. The presentation must be in English and should last approximately 10 minutes. The presentation is followed by lunch and a tour in the Ministry of Finance.
- The three teams will be contacted during Wednesday March 13.
- All teams will receive comments on their product

TO SUCCEED IN OUR CASE COMPETITION, YOU MUST

- Prepare your findings with a clear storyline (e.g. not necessarily following the order of the questions)
- Present you answers top-down, e.g. starting with the conclusion and subsequently supporting your conclusion with your analysis and rationales
- Ensure that your slides are readable, well-structured and to-the-point e.g. try to reduce “wordiness” and include storytelling illustrations and graphs



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Thanks to

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