Reading: "*Monopolistic Competition and Optimum Product Diversity"* by A. Dixit and J. Stiglitz in AER (1977) ...a workhorse for economics

Rosella Nicolini

First version: April 2011 This version: January 2012

RN (UAB)

• From J. Tirole (1988):

Monopolistic competition was introduced by Chamberlin (1933) to formalize the following industry configuration:

1. A quite large number N of firms,

2. Each firm faces a downward-sloping demand

3. A price charged by a firm has only a negligible effect on the demand addressed to other firms (namely: absence of cross-effects). In the standard framework there has been a conventional wisdom according to which monopolistic competition yields too many firms (from a social viewpoint) or the existing firms produce too little to exploit the economies of scale. Dixit-Stiglitz (1977) shows that this statement is not true:

• When we consider the surplus of the consumer associated with the introduction of the good, we cannot pretend that firms may capture the whole surplus.

・何ト ・ヨト ・ヨト

Dixit-Stiglitz (1977) shows that this statement is not true:

- When we consider the surplus of the consumer associated with the introduction of the good, we cannot pretend that firms may capture the whole surplus.
- In equilibrium, we experience a situation in which we tend to include too few products.

Dixit-Stiglitz (1977) shows that this statement is not true:

- When we consider the surplus of the consumer associated with the introduction of the good, we cannot pretend that firms may capture the whole surplus.
- In equilibrium, we experience a situation in which we tend to include too few products.
- Business stealing: by introducing a new product, a firm steals consumers from other firms. Then, firms that have positive profits loose income from these diverted consumers. Therefore, firms may tend to produce (and introduce) too many products.

This contribution had an extremely huge impact on the economic scenario because:

- It impulsed the new trade theory
- It has been the principal theoretical foundation of the modern economic geography
- It has been the foundation of all macro models that not follow the perfect competitive setting (namely, when one needs to model the love for variety).

イロト イ理ト イヨト イヨト

- The original version of the model was formalized for a continous setting. This is the proper setting to consider the negligible effect issues....
- Referee reports in AER imposed a change into the descrite setting.
- The authors introduced the device of *the extreme large number of firms N* to meet those requirements.
- However, the continuous version has been retrieved in more recent times

.....however, some signal relating to the previous continuous version are still there.....

 "[...] We therefore take a direct route, noting that the convexity of indifferent surfaces of a conventional utility function defined over the quantities of all potential commodities already embodies the desirability of variety." => GENERAL ISSUE.

- "[...] We therefore take a direct route, noting that the convexity of indifferent surfaces of a conventional utility function defined over the quantities of all potential commodities already embodies the desirability of variety." => GENERAL ISSUE.
- "[....] This is where potential commodities in a group or sector or industry are good substitutes among themselves, but poor substitutes for all the other commodities in the economy." => CLEAR OBJECTIVE.

イロト イ団ト イヨト イヨト 三日

■ "[...] To demonstrate the point as simply as possible, we shall aggregate the rest of the economy ......" ⇒ DESCRIPTION OF THE METHOD.

- "[...] To demonstrate the point as simply as possible, we shall aggregate the rest of the economy ......" ⇒ DESCRIPTION OF THE METHOD.
- "[...] We also assume that all commodities have unit income elasticities. This differ from a similar recent formulation by Michael Spence.[...]" ⇒ COMPARISON WITH OTHER THEORIES.

イロト イ団ト イヨト イヨト 三日

## • We pass through the different step of the introduction of the problem

æ

イロト イ団ト イヨト イヨト

- We pass through the different step of the introduction of the problem
- One is almost able to replicate the different stages, but one founds a problem in replicating the result of equation (6)

- We pass through the different step of the introduction of the problem
- One is almost able to replicate the different stages, but one founds a problem in replicating the result of equation (6)
- The step is not clearly explained in the paper

- We pass through the different step of the introduction of the problem
- One is almost able to replicate the different stages, but one founds a problem in replicating the result of equation (6)
- The step is not clearly explained in the paper
- It could be a mistake.....if we are sure, why do not we try to correct it
  ?

- We pass through the different step of the introduction of the problem
- One is almost able to replicate the different stages, but one founds a problem in replicating the result of equation (6)
- The step is not clearly explained in the paper
- It could be a mistake.....if we are sure, why do not we try to correct it
  ?
- Or it can be something obscure. What's happened in the litterature ??? Did someone retrieved this result ???

- We pass through the different step of the introduction of the problem
- One is almost able to replicate the different stages, but one founds a problem in replicating the result of equation (6)
- The step is not clearly explained in the paper
- It could be a mistake.....if we are sure, why do not we try to correct it
  ?
- Or it can be something obscure. What's happened in the litterature ??? Did someone retrieved this result ???
- NO: this result has not be explicitely considered in any further study....

• In the literature, the elasticity of substitution depending on prices has been replaced by a costant elasticity. This assumption semplifies the technique without changing results.

- In the literature, the elasticity of substitution depending on prices has been replaced by a costant elasticity. This assumption semplifies the technique without changing results.
- Elasticity is always written in Logs: This is a more common notation problems in countinous. Is it a "left-over" or a signal of a previous formulation ?

- In the literature, the elasticity of substitution depending on prices has been replaced by a costant elasticity. This assumption semplifies the technique without changing results.
- Elasticity is always written in Logs: This is a more common notation problems in countinous. Is it a "left-over" or a signal of a previous formulation ?
- Market equilibrium: this is the central part with the key issues retrieved by all the (post)literature.

- In the literature, the elasticity of substitution depending on prices has been replaced by a costant elasticity. This assumption semplifies the technique without changing results.
- Elasticity is always written in Logs: This is a more common notation problems in countinous. Is it a "left-over" or a signal of a previous formulation ?
- Market equilibrium: this is the central part with the key issues retrieved by all the (post)literature.
- A clear results for the dichotomy free-entry/number of firms is stated.

• Constrained and Unconstrained Optimum paragraphs: some operative problem with some -nowdays- uncommon definitions....

- < A > < B > < B >

- Constrained and Unconstrained Optimum paragraphs: some operative problem with some -nowdays- uncommon definitions....
- Extension with eleasticity function of "x" (quantities): it completes the development of the setting but it does not entail further innovative results.

- Constrained and Unconstrained Optimum paragraphs: some operative problem with some -nowdays- uncommon definitions....
- Extension with eleasticity function of "x" (quantities): it completes the development of the setting but it does not entail further innovative results.
- Asymmetric case: this setting *inspires* the principal building blocks of the two-region framework by Krugman (in the idea of the additionality in firm components.