The Basics of Market Definition
&
Summary of Selected Analysis Group Work

The Basics of Market Definition

Purposes of Market Definition

- Assess whether a proposed merger would be likely to lead to higher prices
- Assess whether a particular type of firm behavior would be likely to lead to higher prices
- Generally speaking, the more concentrated is the (defined) market, the more likely the merger or firm behavior would lead to higher prices
- However, this effect may be at least partially offset if there are economies of scale, i.e., if average costs decline with firm size.

Defining a market

- "Market definition focuses solely on *demand substitution factors*, i.e., on customers' ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service."
- The hypothetical monopolist test "requires that a hypothetical profit-maximizing firm…that was the only present and future seller of the products…likely would impose at least a small but significant and non-transitory increase in price ("SSNIP") on at least one product in the market…."
- Consider a small group of products that are (hypothetically) produced by the same firm. If the firm can profitably raise prices by a small but significant and non-transitory amount (the SSNIP test), the products define a market. If not, the market should be expanded by adding additional products until the SSNIP test is satisfied.
- "The hypothetical monopolist test ensures that markets are not defined too narrowly, but it does not lead to a single relevant market."
- Markets are defined by both products and geography.
- The potential for entry of new firms to limit price increases is taken into account *after* a market has been defined.

What Kinds of Evidence are Used to Define Markets?

- Time series analysis – Did a significant number of consumers switch from product A to product B when the price of A increased or did the price of A decline significantly after B entered?
- Cross section analysis – Are the sales of A lower, or is its price lower, in areas where B is also sold than where it is not?
- Documentary evidence – Do the documents of the producers of A and B refer to each other’s products as close substitutes?
- Information from buyers – Do customers regard A and B as close substitutes?
- Objective information about product characteristics - Are the characteristics of A and B sufficiently similar that it appears that consumers would regard them as substitutes?

The Staples/Office Depot Merger

- In analyzing their proposed merger, the Federal Trade Commission’s economic expert testified that:
  - Their documents indicate that they are each other’s most frequent competitors.
  - Their customers say that they are each other’s closest competitors.
  - They offer specific services to large businesses, including formalized bidding processes, ordering system integration, customized product offering, and negotiated pricing, that smaller competitors cannot offer.
  - The market is for the supply of office supplies sold to large businesses, i.e. it excludes sales to small businesses, and it excludes the sale of managed print services, where Staples and Office Depot face significant competition from other suppliers.
- In evaluating an earlier (2004) proposed merger of Staples and Office Depot, the Federal Trade Commission claimed that:
  - Staples’ prices were highest in geographic regions where it faced no competition from Office Depot and Office Max, the other “Office Super Stores”.
  - Staples’ and Office Depot’s prices were lower in geographic regions where they competed directly with one another.

Counting Competitors – How NOT to Measure Concentration

- Market 1
- 100 firms, each with a market share of 1 percent.
- Market 2
- 100 firms, one with a market share of 99 percent, 99 each with a market share of 1/99 percent.
- Which is more concentrated?
- Many of the metrics that have been proposed to assess competition simply count competitors.

How to Measure Market Concentration (I)

- N-firm concentration ratio
- Consider a market with 10 firms. [Market has already been defined]
- Market shares are:
- 25, 20, 15, 10, 5,5,5,5,5,5.
- The 4-firm concentration ratio is: 25+20+15+10=70
- The 8-firm concentration ratio is 70+5+5+5+5=90
- The weakness of this measure is that it can be insensitive to changes in market shares. Suppose, for example, that the shares of the top 4 firms are 40, 10, 10, 10. 4-firm concentration ratio is still 70.

How to Measure Market Concentration (II)

- The Herfindahl-Hirschman Index (HHI)
- Consider a market with 10 firms. [Market has already been defined]
- Market shares are: 25, 20, 15, 10, 5,5,5,5,5,5.
- HHI is the sum of the *squared* shares: =625+400+225+100+25+25+25+25+25+25=1500
- Market shares are: 40+10+10+10+5+5+5+5+5+5
- HHI 1600+100+100+100+25+25+25+25+25+25=2050
- HHI takes account of the share of each individual firm and gives disproportionate weight to the largest firms.

Cautions for the CCT RT

- Defining a market is often not a straightforward undertaking so it will probably be necessary for the RT to assess concentration, and therefore competitiveness, for a number of different market definitions.
- It is a given that the gTLD initiative will substantially increase the number of competing registries under almost any market definition.
- However, whether and how the initiative will reduce the HHI will depend on:
  - The extent to which the new gTLDs *as a group* capture market share from the legacy gTLDs and
  - which legacy gTLDs lose market share to the new gTLDs

Summary of Selected Analysis Group Work

Our Approach & Data Obtained (in Phase I)

- Registrars and registries may compete on price and non-price factors. These non-price factors include strategies to differentiate themselves, e.g., changes in product quality, product offerings, and ancillary products.
- Historical data regarding registration volume were obtained from monthly transaction reports, covering all legacy TLDs and new gTLDs in our sample. These monthly transaction reports covered a period of October 2009 through April 2015.
- Historical data regarding wholesale prices were provided by registries for the majority of legacy TLDs and new gTLDs. The collected data cover a period ranging from May 2001 through April 2015.
- Registrars did not provide sufficient transaction-level data in response to our data requests *(almost no transaction-level data were received).* Thus, regarding retail prices, we relied on publically available list prices for one-year registrations and add-on offerings. These prices were collected in April 2015.

Summary of Data Collected

		Legacy TLDs	New gTLDs	All TLDs
Total in Sample		**14**	**109**	**123**
Sunrise Prices	Number of TLDs with Available Data	5	82	87
	Percent of Total Registrations	0.0%	11.6%	0.3%
April 2015 Wholesale Prices	Number of TLDs with Available Data	10	78	89
	Percent of Total Registrations	99.6%	68.7%	98.9%
April 2015 Retail Prices	Number of TLDs with Available Data	14	108	122
	Average Number of Offering Registrars Across TLDs	20	22	21
	Collected Registrars' Percent of TLD Registrations	55.7%	62.8%	55.9%
Registration Volume Data	TLDs With Historical Registration Data	14	109	123

Notes:

[1] Percent of Total Registrations for Sunrise Prices reports the sunrise volume data for TLDs with pricing information in our sample as a fraction of all April registration volume for our full sample of TLDs.

[2] Percent of Total Registrations for April 2015 Wholesale Prices reports the wholesale volume data for TLDs with pricing information in our sample as a fraction of all April registration volume for our full sample of TLDs.

[3] Average Number of Offering Registrars Across TLDs reports, on average, legacy TLDs were offered by 20 registrars.

[4] Collected Registrars' Percent of TLD Registrations reports the retail volume data for TLDs with pricing information in our sample as a fraction of all April registration volume for our full sample of TLDs.

Registration Shares within a Sample of TLD Competitive Groups

- We grouped TLDs that could be thought to compete against each other.
- We then calculated shares, and also indicated the average wholesale price.

TLD Family	TLD	Registration Share	Wholesale Price	Months Available
Beer	1	22.5%	$50.00	14
Beer	2	39.6%	$20.00	12
Beer	3	37.8%	-	15
Deals	1	14.1%	$20.00	16
Deals	2	18.3%	$20.00	16
Deals	3	30.3%	$20.00	10
Deals	4	18.6%	$20.00	13
Deals	5	16.1%	$13.00	13
Deals	6	2.7%	-	14
Education	1	38.7%	$20.00	17
Education	2	15.1%	-	13
Education	3	0.8%	-	12
Education	4	34.5%	$13.00	17
Education	5	3.0%	$13.00	13
Education	6	7.9%	$33.00	13
Global	1	32.6%	$50.00	11
Global	2	38.3%	$13.00	17
Global	3	29.1%	$20.00	8
Help	1	11.4%	$33.00	16
Help	2	3.9%	$20.00	12
Help	3	28.7%	$20.00	18
Help	4	10.0%	-	9
Help	5	1.0%	-	9
Help	6	5.6%	-	15
Help	7	14.9%	$13.00	17
Help	8	5.8%	$13.00	17
Help	9	14.4%	$13.00	18
Help	10	4.3%	$19.00	15

Phase II Analysis

- Phase II will build on the results in Phase I by revisiting the original analyses a full year later and by including additional analyses. Relevant to issues associated with concentration, we will, for example:
  - Examine how the distribution of prices and registration volumes have changed over time.
    - This includes updates to the tables shown in the previous slides.
  - Examine the extent to which registrations made in certain geographic regions have changed over time for each TLD in our sample.