Competitiveness: A Blessing or a Curse for Gender Equality?

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Competitiveness: A Blessing or a Curse for Gender Equality?

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Organization of Presentation

- Introductory Remarks
- Theoretical Model
- Data Description and Methodology
- Gender Equality and Competitiveness: Evidence
  - India
  - Taiwan & South Korea
- Take-Home Points and Gender-Aware Policies

Introductory Remarks

- Greater openness to international trade has brought mixed blessings to women in developing and industrialized countries
- Developing countries: have seen a feminization of foreign exchange earnings through female-labor intensity of export production
- Trade has brought employment gains for women, but:
  - Often low wage jobs with unfavorable working conditions in LDCs due to intense price competition
  - Few opportunities to move up the ladder to higher-wage, skilled jobs or to supervisory positions
  - Firms turning more to flexible and informal work arrangements
  - Tendency to sub-contract to smaller-scale, home-based operations

Introductory Remarks

- Some transition and industrialized economies have seen job losses for women and growing gender wage gaps as a result of trade
  - Shift to higher-tech and capital intensive production has led to substitution away from female labor
  - Off-shoring of information, communications, and technology services to lower-wage economies also contributed to gender wage gaps and employment losses for women
- Yet gender inequality can also stimulate export-led growth
  - Relatively low female wages contribute to lower labor costs
  - Helps to raise investment and improve export performance
  - Growth in foreign exchange earnings helps finance greater capital goods and intermediate inputs
  - Contributes to productivity and economic growth

Introductory Remarks

- Numerous countries have adopted trade liberalization resulting in higher levels of competition
  - Reductions in non-tariff barriers, fewer export restrictions, tariff cuts across industries
- Greater competition through trade liberalization may have affected wages of men and women differently
- Increased participation in global economy pressures firms to cut costs
  - If discrimination is costly, increased competition reduces incentives for employers to discriminate
    - Expect to see smaller pay differentials

Introductory Remarks

- Objective: present and test a theoretical model of competition and industry concentration that incorporates firms' "tastes for discrimination" (Becker 1971)

- Variation in rates of liberalization across industries→ good opportunity for empirical estimation

- Identification strategy: effects from trade competition should be more pronounced in concentrated sectors
  - employers can use rents to indulge taste for discrimination
  - any reduction in wage gap in concentrated industries should be attributed to international trade, not domestic forces

Introductory Remarks

- Test theoretical model with data from India, Taiwan, and S. Korea
  - Household and labor force survey data, merged with data on trade, output, and industry structure, at industry level
- Contribution to literature
  - Few econometric studies on competition, trade, and gender wage gap, with conflicting results
- This research adds new evidence to these debates, grounded in a theoretical model of trade competition and wage inequality

Theoretical Model

- Neoclassical model of foreign competition, market power, and wage inequality (Borjas and Ramey 1995) used as a foundation
  - Obtain expression for equilibrium wage for workers in concentrated sector
  - Incorporate “taste for discrimination” (Becker 1971) to model distribution of equilibrium wages for men and women in concentrated sector
  - Derive expression for gender wage differential
  - Under certain conditions, international trade competition can cause male-female wage gap to widen
  - Introduces non-neoclassical elements (lower bargaining power and lower-status jobs for women) into a neoclassical framework

Theoretical Model

- Set-up: domestic economy has 2 sectors
  - Competitive and concentrated
  - Assume no wage differential btw men and women in competitive sector
- Next step: model distribution of wages for male and female workers in concentrated sector
  - Males and females substitutes in production, but each firm has a “taste for discrimination” against female workers
  - Firms must be willing to pay in order to indulge this taste → male workers paid a relatively higher wage (higher by 1+d, where d=discrimination coefficient; $d \geq 0$)
  - Firms hire less than the profit-maximizing number of females
  - For $d=0$, males and females get equal share of rents; for $d>0$, males get larger share of rents

Theoretical Model

- Final step: define ψ, the gender wage differential in concentrated sector
  - Function of d and volume of net trade (v)
  - $\partial\psi / \partial v < 0$, so as trade increases, gender wage gap narrows
  - $\partial\psi / \partial d > 0$, so gender wage gap widens with an increase in the taste for discrimination parameter
    - Why might d rise? Following reasoning in Rosen (2003), firms with a lower d are less profitable and exit the market with competition from trade, while firms with a higher d remain in the market and protect male workers at expense of female workers with relatively high wage payments and more favorable employment decisions
  - Net effect on gender gap is ambiguous and depends on the changes in v and d; if d is initially small, the net effect could be a widening in the wage gap

Data Description

- Used repeated cross-sections of individual-level surveys
  - India: National Sample Survey Organization (NSSO)
  - Taiwan: Manpower Utilization Survey (MUS)
  - S. Korea: Occupational Wage Survey (OWS)

- Sample: all regular wage employees of working age (15-60) with positive weekly cash wages

- Used to construct residual gender wage gaps by industry in each country
  - Oaxaca-Blinder procedure: divides overall wage gap into portion explained by measured characteristics and a residual commonly (with caveats) attributed to discrimination

Data Description

- Combined data on wage gaps with industry-level data, matched by industry codes:
  - Exports and imports: World Bank's Trade, Production, and Protection Database (India); ANU's International Economic Data Bank (Taiwan * S. Korea)
    - Used to construct x/output, m/output, and (x+m)/output
  - Output: Annual Survey of Industries (India); National Income Accounts (Taiwan); UNIDO (S. Korea)
  - Domestic concentration: Annual Survey of Industries (India); Industrial Census (Taiwan & S. Korea)
    - 1-# enterprises/output (India, Taiwan, S. Korea)
    - Pareto function estimates and k-firm concentration ratios (Taiwan, S. Korea)

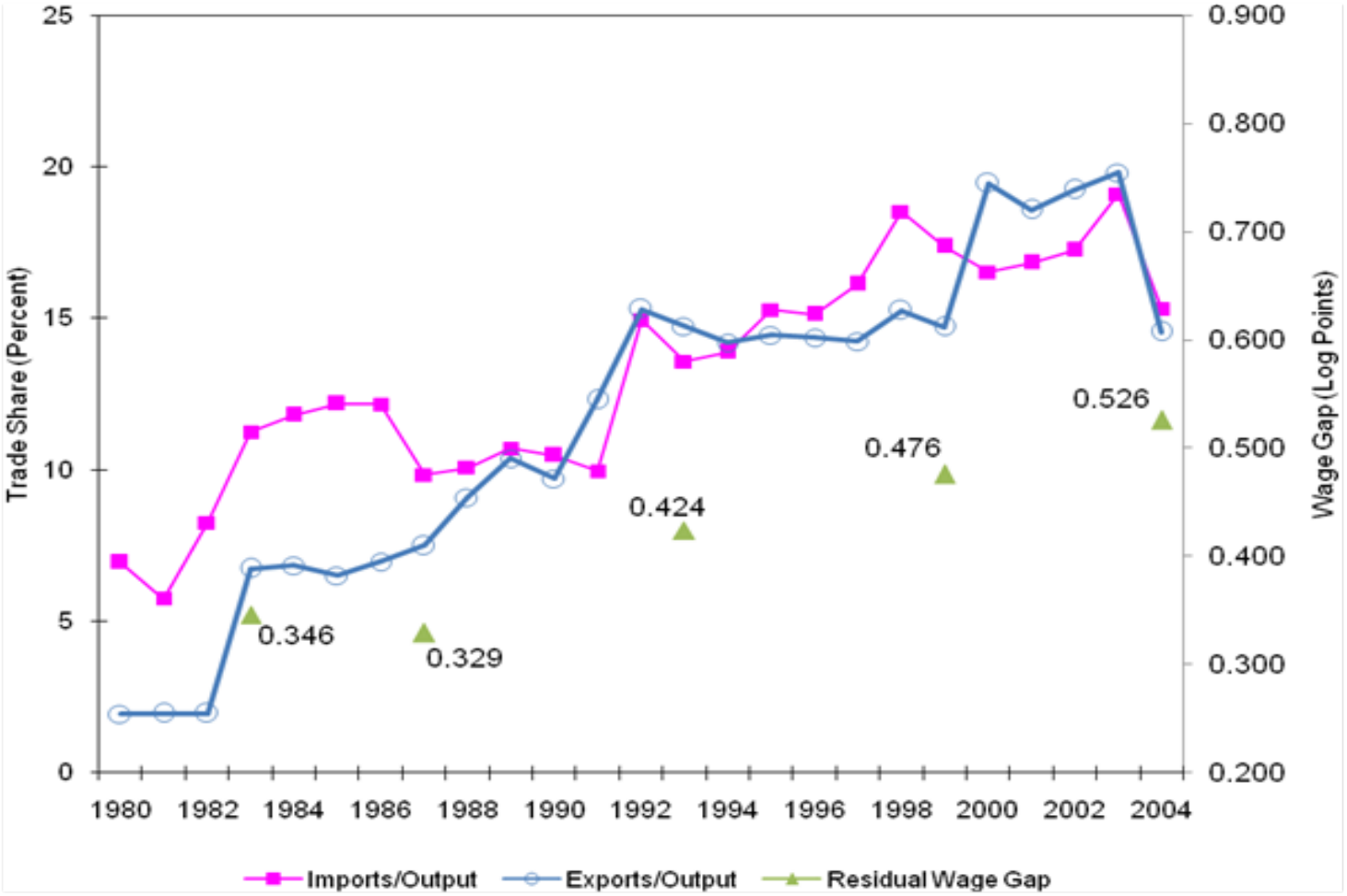
Methodology

- Empirical strategy: Test relationship between male-female residual wage gap by industry over time, and:
  - Domestic concentration by industry
  - Trade share by industry
  - Post-liberalization dummy variable
  - Interaction between concentration, trade share, and post-liberalization dummy
- Focus on coefficient on the three-way interaction term as representing marginal effect of more international trade competition in concentrated industries after liberalization

Evidence for India

- Series of shocks in 1990-91 led to stand-by assistance from IMF in Aug. 1991
- SSA policies included reduction in tariff levels across sectors, with subsequent waves of reform in ’94, ’97
- Imports and exports responded with strong growth (next figure)
- Superimposed on figure: residual gender wage gaps
- In midst of trade liberalization, residual wage gap increased

Evidence for India



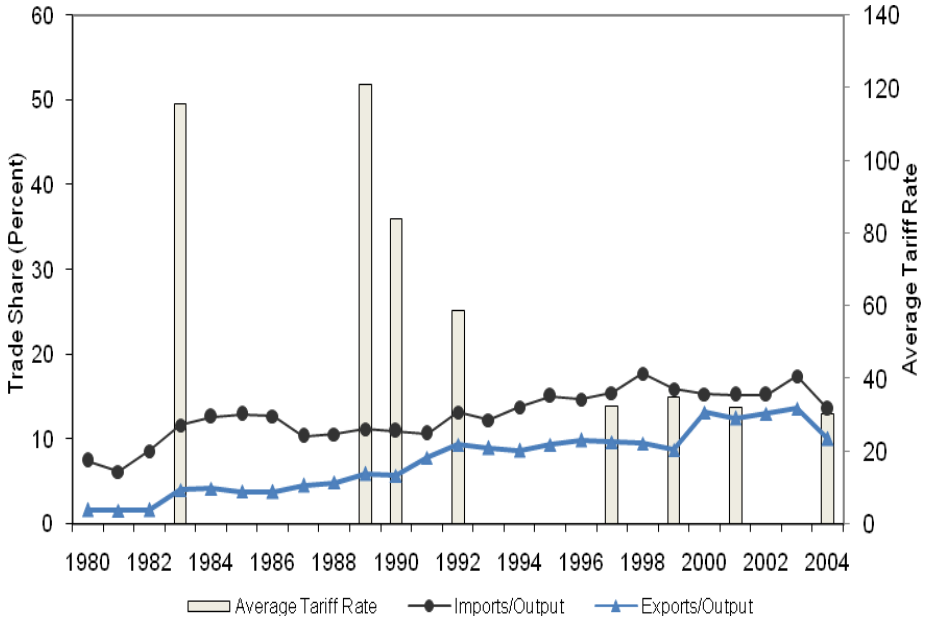
Source: Menon and Rodgers (2009)

Evidence for India

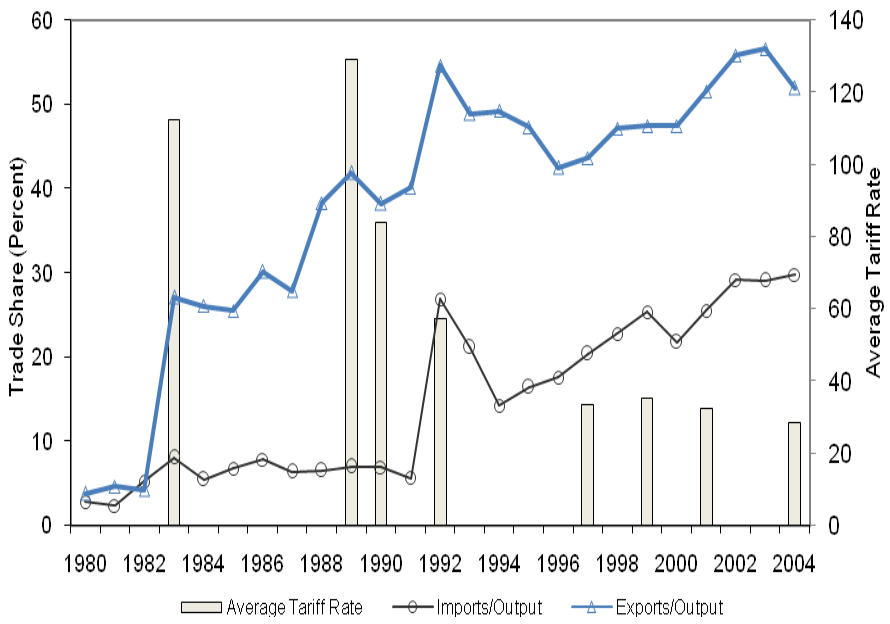
- Industries classified according to index of domestic concentration
  - Higher values correspond with greater concentration (fewer establishments)
  - Most concentrated: petroleum refinery, industrial chemicals, iron and steel
  - Least concentrated: wood products, furniture, tobacco, pottery
- Less concentrated industries opened more to trade after trade policy reforms
- Data on tariffs show drastic cuts post-1990 in across industries

Evidence for India: Average Trade Ratios and Tariff Rates by Levels of Domestic Concentration

More Concentrated Industries



Less Concentrated Industries



Evidence for India

- Test 6 specifications with OLS
  - Variations by measurement of time (post-liberalization vs. time trend) and by measurement of trade share (x/output, m/output, and (x+m)/output)
- Greater trade openness over time in more concentrated industries associated with higher male-female residual wage gaps
  - Result statistically significant across 4/6 models (all but specifications with m/output)
  - Robust to estimations with fixed effects to control for time-invariant, industry-specific characteristics

Evidence for India

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Interaction	0.197**	0.054	0.222*	0.496*	0.214	0.730*
Term	(0.099)	(0.106)	(0.123)	(0.260)	(0.297)	(0.399)

Models 1 & 4: X/output
Models 2 & 5: M/output
Models 3 & 6: (X+M)/output
Models 1-3: Time specified as trend term
Models 3-6: Time specified as post-liberalization dummy

Evidence for Taiwan and S. Korea

- Both economies known for:
  - High degree of outward orientation and export-oriented growth
  - Trade growth accompanied by rapid structural transformation
  - Active role of their governments in guiding development and using subsidies, tax privileges, and trade policies to promote exports
- Taiwan has relatively more competitive industrial structure with numerous SME's; S. Korea's industrial structure dominated by very large firms
- During period of analysis, Taiwan's trade openness increased while it stagnated and even declined somewhat in S. Korea

Evidence for Taiwan and S. Korea

- Most concentrated industries: chemical materials, petroleum, coal products, iron & steel, and electronic products
- Least concentrated industries: fabricated metal products, wood products, and furniture
- Regression results show that in both economies, greater trade openness associated with larger residual gender wage gaps
  - For Taiwan, holds mostly for imports
  - For S. Korea, holds mostly for exports

Evidence for Taiwan & S. Korea

	Model 1	Model 2	Model 3	Model 4
Taiwan				
Interaction with X/output	11.07**	9.41**	49.85**	131.35**
	(3.72)	(3.68)	(17.86)	(43.59)
Interaction with M/output	8.64	11.77*	25.90	78.42
	(6.04)	(5.91)	(15.01)	(55.95)
S. Korea				
Interaction with X/output	-1.36	3.03	6.36	0.50
	(3.80)	(4.18)	(15.94)	(2.78)
Interaction with M/output	7.05	15.09**	21.46*	6.30
	(6.34)	(6.41)	(10.45)	(4.97)

Models 1-4 vary with specification of Concentration: (1) *C* = Pareto-function estimates, dummy; (2) *C* = # enterprises/output, dummy; (3) *C* = Pareto-function estimates, continuous; and (4) *C* = # enterprises/output continuous.

Take-Home Points

- Summary: competition from international trade associated with increased wage discrepancies between men and women
  - Identification strategy controls for domestic concentration and worker characteristics
- Results consistent with theoretical model under the condition of an increasing taste for discrimination
  - Declining rents post-liberalization put pressure on firms to cut costs; women bore the brunt of these cuts

Take-Home Points

- Female workers relatively vulnerable in the global market place:
  - have weak bargaining power, low workplace status→ less able to negotiate for higher pay
  - employer practices favor male workers
  - lack of enforcement of anti-discrimination labor standards

- Policy implications of this research and other studies on gender and trade competition center on gender-aware policies with links to trade-related outcomes

Gender-Aware Policies

1. Use positive trade incentives to improve working conditions in developing countries, similar to U.S. trade agreement with Cambodia

2. Direct spending on infrastructure: Reduces costs of doing business and care burden
   - Physical infrastructure: Roads, transportation, green energy research
   - Social infrastructure: Education, child care, health care, training for young and older adults, food and housing support
   - These investments more than pay for themselves because they raise productivity, business investment, job growth, and tax revenues

Gender-Aware Policies

3. Mobilize resources for investment in human capital. Examples include:

   - Promote skill development through better education and vocational training
   - In developing countries: support small-scale farmers with extension services to improve productivity, and fund conditional cash transfer programs
   - Requires a new approach to fiscal budgeting recognizing that returns from human capital investments are realized over the long-run

4. Enforcement of anti-discrimination legislation in pay and employment