An Analysis of Regulatory Quality Effects on India Forest Products Imports

Joy Das, *Graduate Research Assistant*
Richard P. Vlosky, *Director & Professor*

Louisiana Forest Products Development Center

Louisiana State University Agricultural Center

WoodEMA 2015 Annual Conference
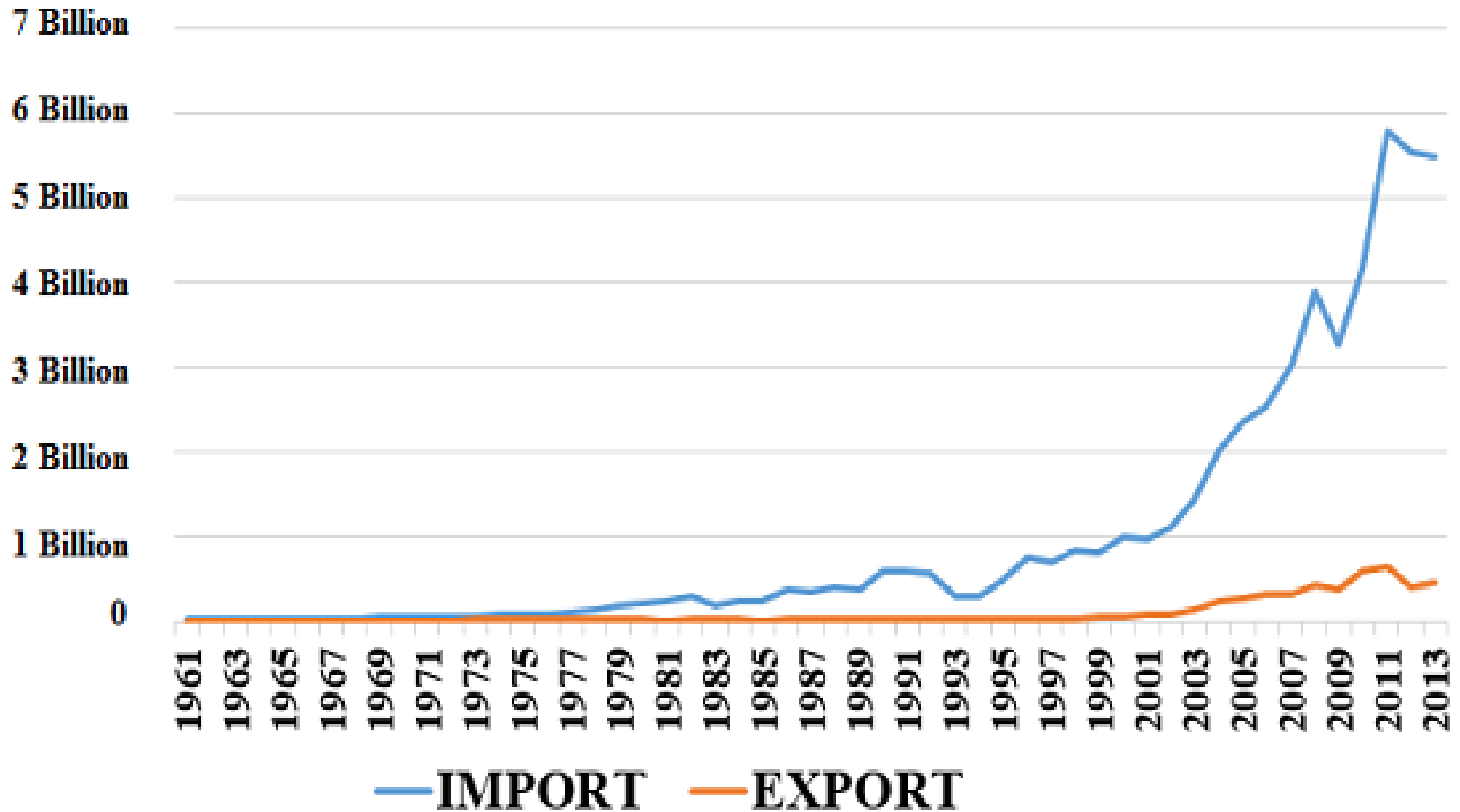Dubrovnik, Croatia

8 October, 2015

INDIA IN 2015

GDP	2.3 trillion US $
GDP Growth Rate	7.5 percent
Population	1.2 billion
Population Growth Rate	1.24 percent
Forest Area	0.69 million Sq. km
Regulatory Quality	−0.47
Exchange Rate	0.016 US $

DECLINE IN INDIA FOREST COVER

Modified: Global Forest Watch
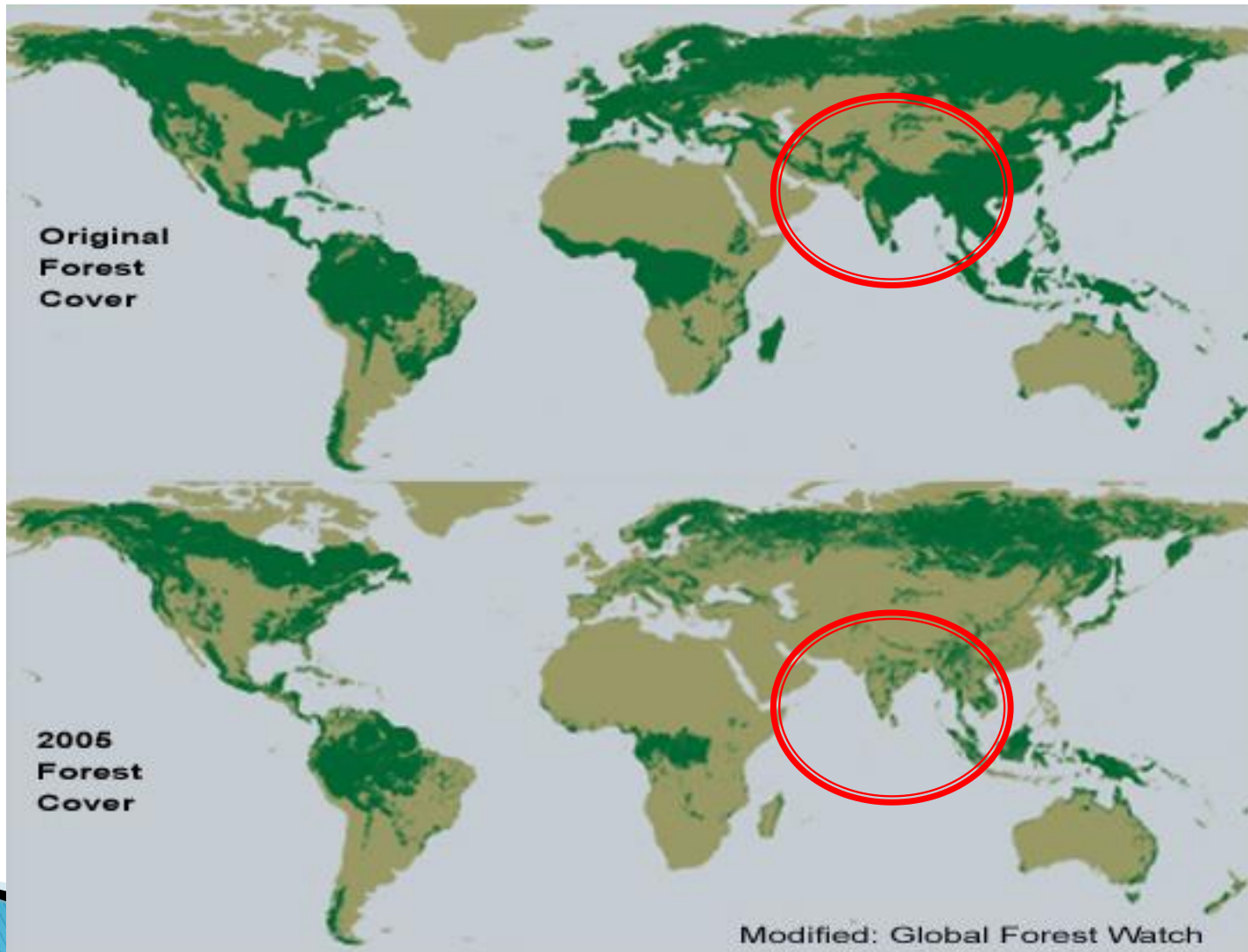
TREND OF FOREST PRODUCTS TRADE IN INDIA (1961-2013)

(US $)

INDIA FOREST PRODCTS IMPORTS
By Value (2013)

Oceania 1.4 %
Africa 2.7 %
Americas 20.1 %
Europe 46.9 %
Asia 28.9 %
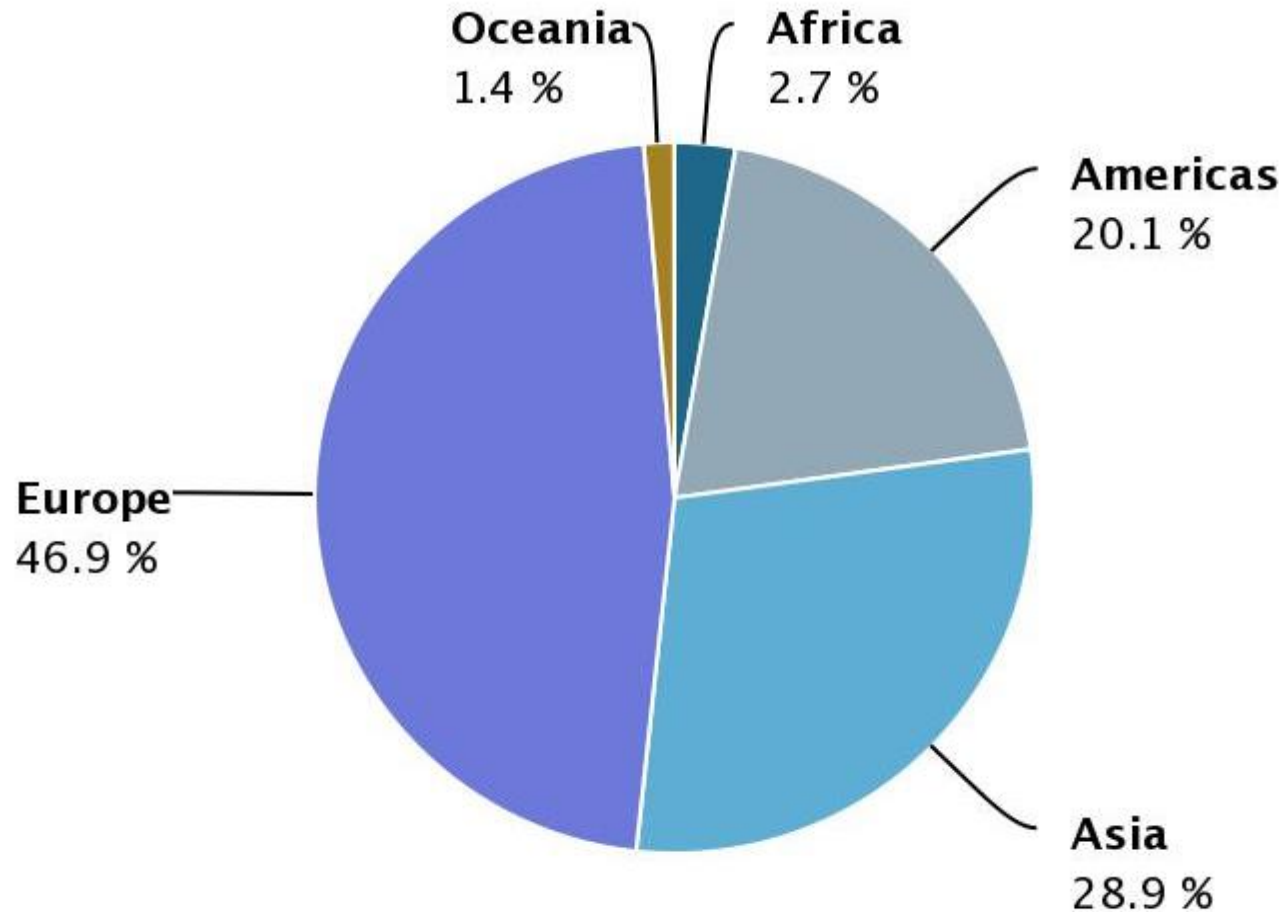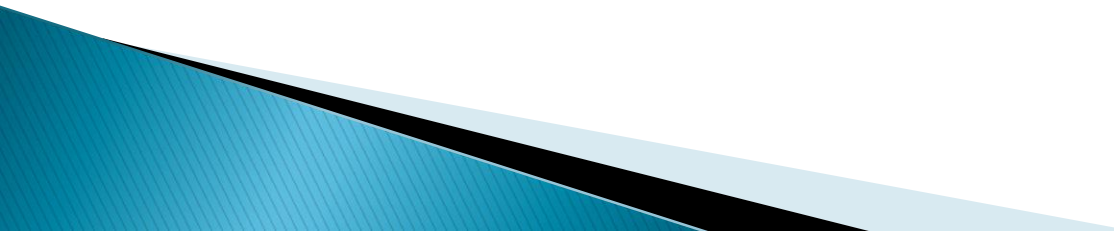
Source: FAOSTAT, 2015

TOP FIVE COUNTRIES FROM WHICH INDIA IMPORTS FOREST PRODUCTS (1961-2013)

M = Million, k = Thousand
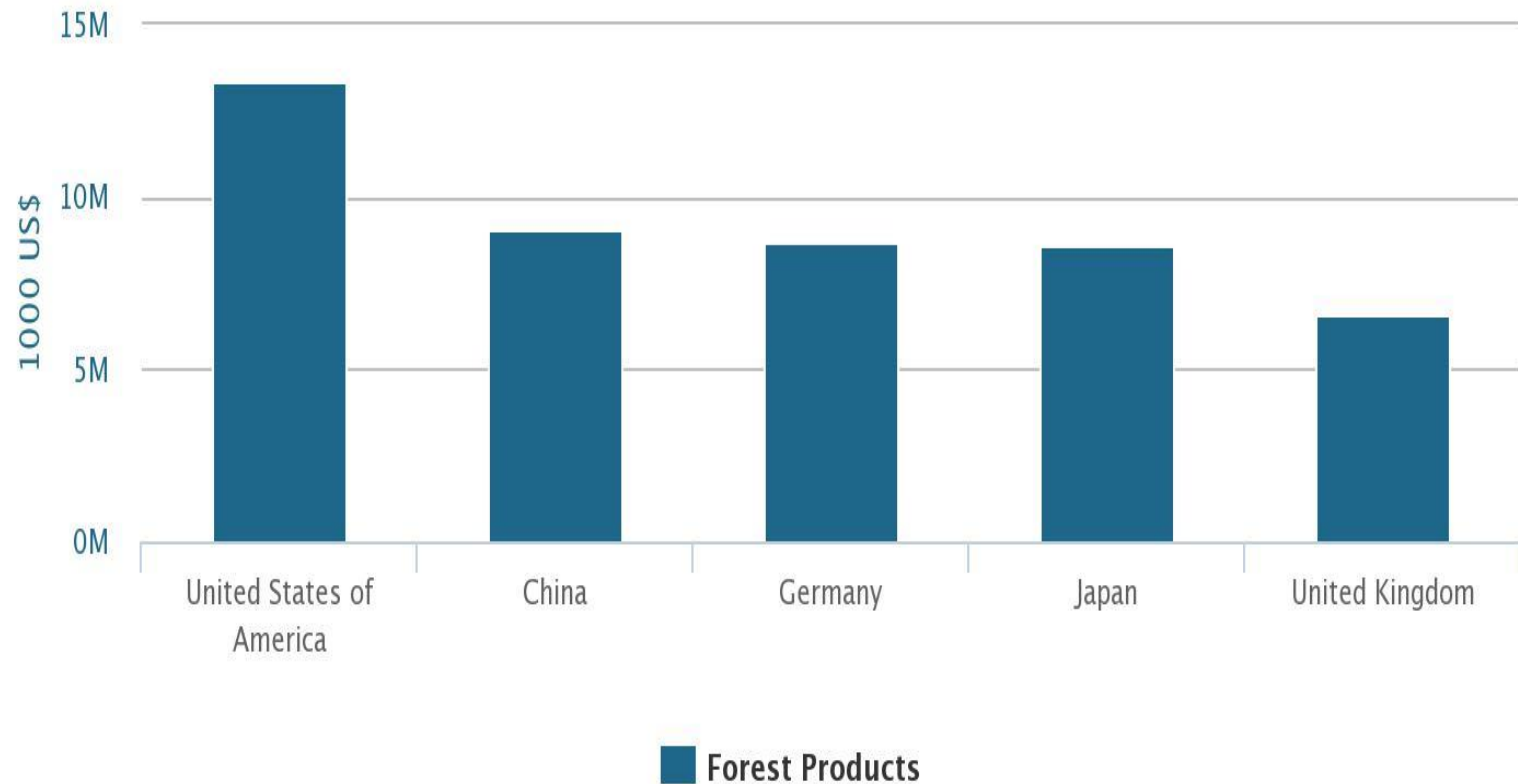
Source: FAOSTAT, 2013

WHAT EXPLAINS THE SURGE IN IMPORTS?

- India's annual import of forest products have increased from about $1.5 billion in 2003 to $5.5 billion in 2013 (*FAOSTAT*, 2015).

- Lack of available forest area.

- Lack of capitalized infrastructure.

INDIA'S FOREST PRODUCTS IMPORT PARTNERS

IMPORT HIGHEST	DISTANCE FARTHEST	DISTANCE NEAREST	FOREST AREA LARGEST	GDP HIGHEST	GDP LOWEST
USA	Chile	Nepal	Russia	USA	Syrian Arab Republic
Malaysia	Peru	Pakistan	Brazil	China	Korea
Myanmar	Bolivia	Bhutan	Canada	Japan	New Caledonia
China	Ecuador	Bangladesh	USA	Germany	Cuba
Canada	Argentina	Myanmar	China	France	Barbados

OBJECTIVE

To study the effect of trading partners' regulatory quality on forest products import in India.

WHAT IS REGULATORY QUALITY?

- *"Regulatory Quality reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development."* (Worldwide Governance Indicators Report of World Bank, 2014)

- Estimate of Regulatory Quality (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance).

REGULATORY QUALITY

- Assessment of a country's performance provided by different sources in regards to price control, administered prices, investment freedom, financial freedom, trade policies and business friendly environment, etc.

- Transparency of financial institutions, custom authorities and legal framework.

- The way in which tax regulations, customs and labor regulations function.

- The extend to which foreign investors are free to invest in the domestic market.
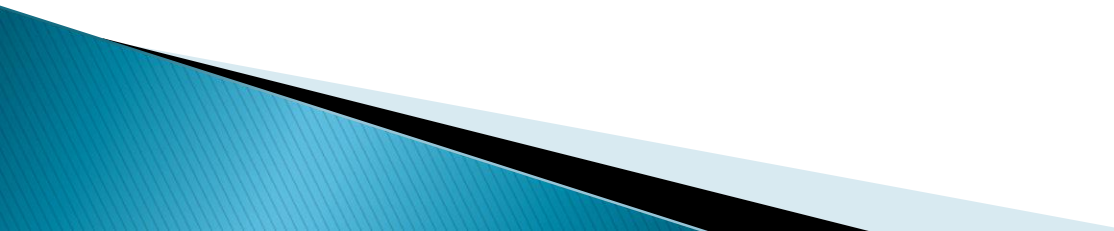
REGULATORY QUALITY

- *Freund and Bolaky* (2002) have suggested a positive relationship of regulatory quality and trade activity.

- Higher regulatory quality is inversely related to trade transaction costs (*Kaufmann et al.*, 2005).

- Regulatory quality is positively correlated to improved quality and quantity of traded goods and services (*Iwanow and Kirkpatrick*, 2007).

- An improvement in regulatory quality reduces bureaucratic rules and formalities (*Grainger*, 2011).

PARTNER COUNTRY REGULATORY QUALITY VALUES

COUNTRIES WITH LARGE SHARE OF INDIA'S IMPORTS	REGULATORY QUALITY	COUNTRIES WITH SMALL SHARE OF INDIA'S IMPORTS	REGULATORY QUALITY
USA	1.26	Jamaica	0.23
Malaysia	0.62	Barbados	0.43
Myanmar	–1.51	Democratic Republic of the Congo	–1.28
China	–0.31	Zimbabwe	–1.80
Canada	1.71	Slovakia	0.91

METHODOLOGY

- A regression analysis has been used to find the effect of regulatory quality on India's forest products import.

- The study was conducted on trade for all 143 exporting countries from which India import forest products during 2009-2013.

- The Regulatory Quality variable in this study is from *Kaufmann et al.* (2005) dataset.

THE MODEL

The regression equation takes the following form :

$$Y_{ijt} = \beta_0 + \beta_1 \text{ REGQ\_PAR}_{jt} + \beta_2 \text{ REGQ\_IND}_t + \beta_3 \text{ GDP\_IND}_t +$$
$$(+) \qquad\qquad (+) \qquad\qquad (-)$$

$$\beta_4 \text{GDP\_PAR}_{jt} + \beta_5 \text{ POP\_PAR}_{jt} + \beta_6 \text{POP\_IND}_t + \beta_7 \text{DIST}_{ij} +$$
$$(+) \qquad\qquad (-) \qquad\qquad (+) \qquad\qquad (-)$$

$$\beta_8 \text{ FOR\_PAR}_{jt} + \epsilon_{ijt}$$
$$(+)$$

Where:

i and *j* are the trading partners

t denotes time

i is fixed (India)

REGRESSION RESULTS

	Import	
Regulatory Quality of Partner Country	**7.17***	
Regulatory Quality of India	**24.94**	**Direction Consistent With the Hypothesis**
GDP of Partner Country	**0.46***	
GDP of India	**2.04**	**Direction Consistent With the Hypothesis**
N	**456**	
R-squared	**0.36**	
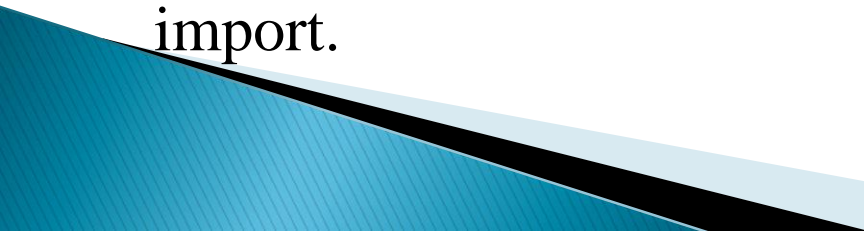
$^*p < 0.05, \,^{**}p < 0.01, \,^{***}p < 0.001$

REGRESSION RESULTS (CON'T)

	Import	
Population of Partner Country	-0.1	Direction Consistent With the Hypothesis
Population of India	11.39	Direction Consistent With the Hypothesis
Distance	-0.53**	
Total Forest Area of Partner Country	0.25***	
Constant	-369.9	
N	456	
R-squared	0.36	

$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

CONCLUSIONS

- Regulatory Quality of partner country positively affects import of forest products in India.

- An improvement in partner countries' regulatory quality enhances India's capacity to respond to forest products markets from those countries.

- Distance has an adverse effect on the total volume of trade as the transport cost of goods increase with increase in distance.

- Forest area of partner country directly affects the volume of import.

THANK YOU
QUESTIONS?

JOY DAS
EMAIL: JDAS2@TIGERS.LSU.EDU
CONTACT: (225) 931-0609