



WTO/ESCAP Third ARTNeT Capacity Building Workshop on Trade Research

26-30 March 2007

Trade, Poverty and Income Distribution:
What Have We Learned?

Theory

WTO Secretariat



Key Points

- Myriad theoretical approaches
 - The different approaches are not necessarily mutually exclusive
 - May counteract each other
- Empirical evidence:
 - Supports many different effects
 - Suggests that trade has caused rising inequality in some circumstances but diminished inequality in others
 - Finds no support for the view that trade has hampered growth
 - Finds that trade has raised per capita GDP growth in many cases
- The effect of trade on inequality and poverty is context specific
- Policy prescriptions must be “tailored” to the needs of a specific country



Overview

- Inequality
 - Within countries
 - Between countries
- Trends in inequality
- Efficiency versus equity
- Theoretical perspectives on inequality and poverty
- Empirical evidence
- Conclusions: Challenges and policy implications

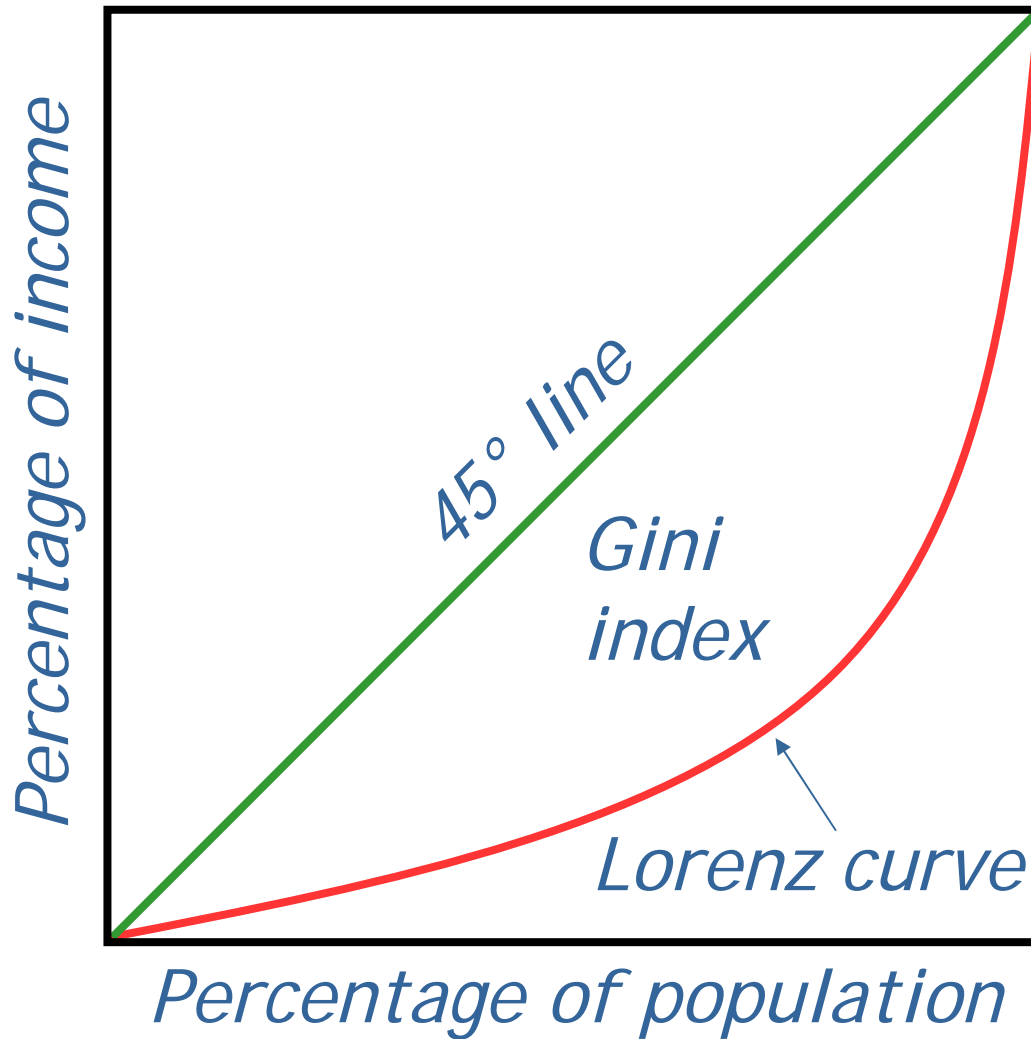


Trends in inequality: Overview

- Within country inequality
 - Gini index
 - World income inequality today
 - Historical trends in inequality
- Between country inequality
 - World income today
 - Historical trends in income-convergence or divergence?

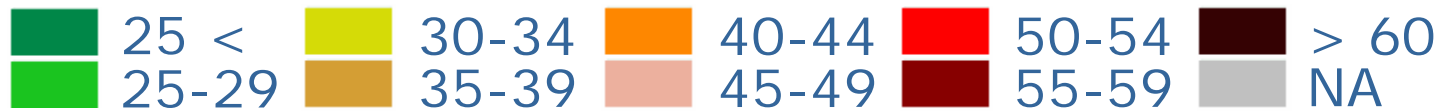
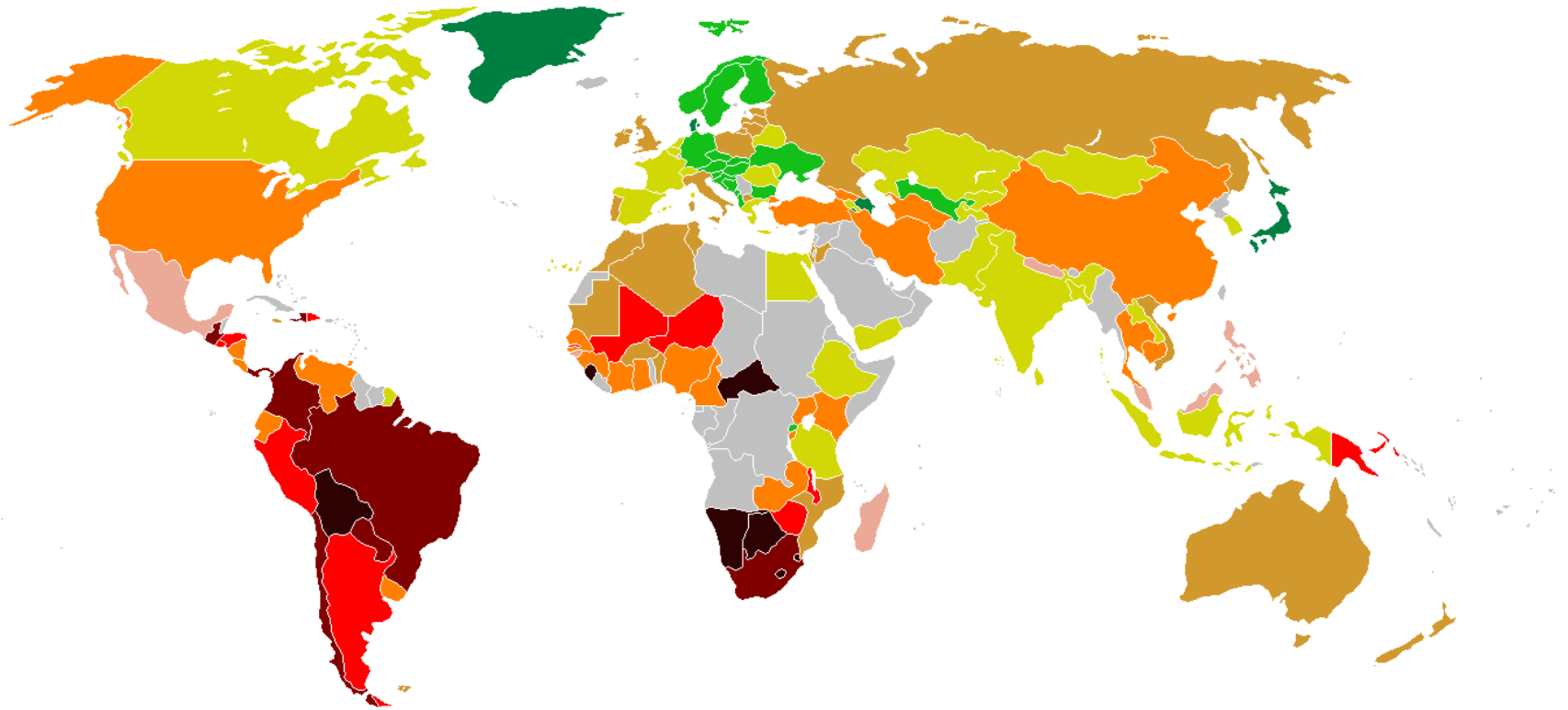


Within country equality: Gini index





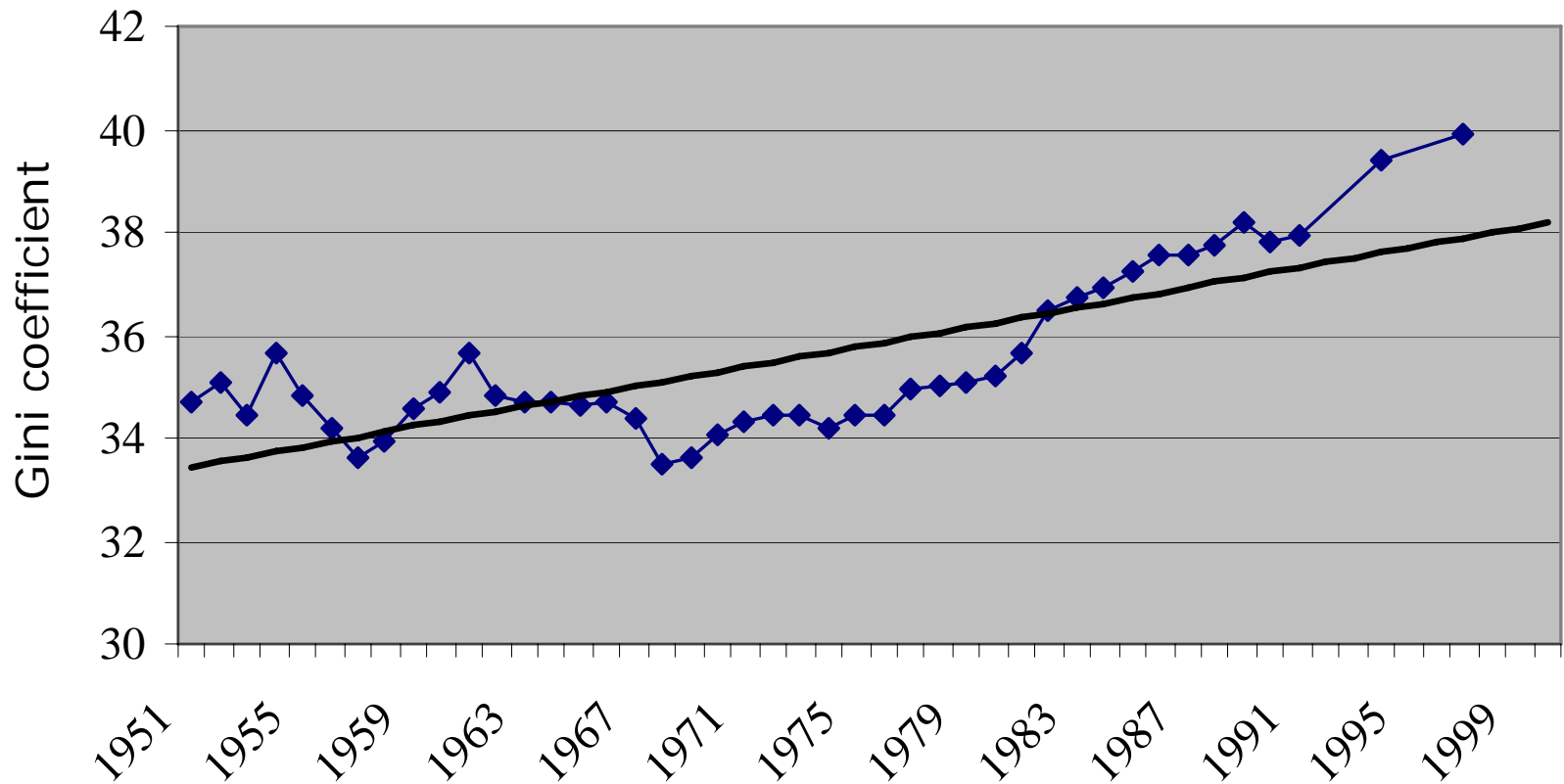
Within country inequality: Gini index



Source: UNDP Human Development Report 2006

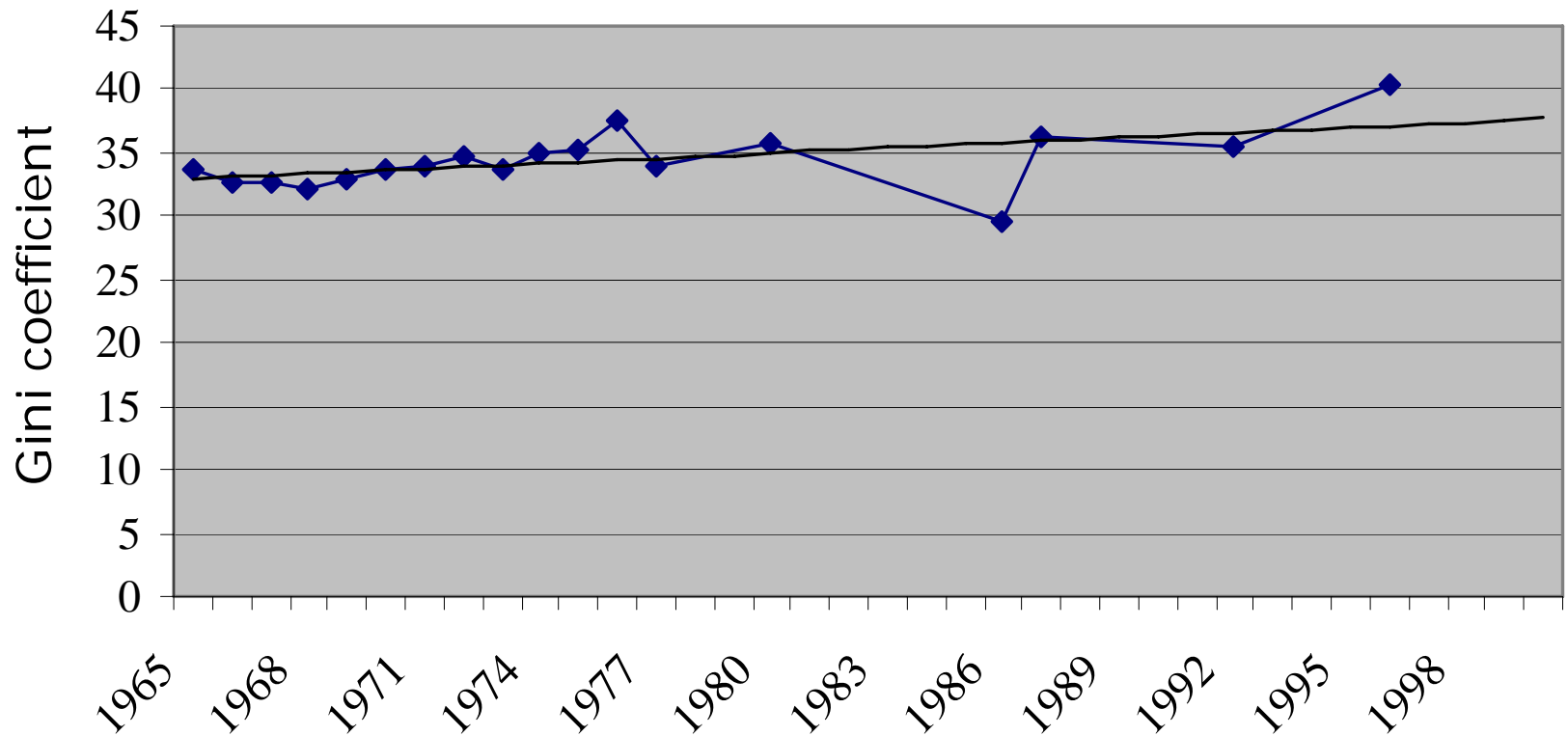


Within country inequality: Historical trends in inequality United States (World Bank, 2000)



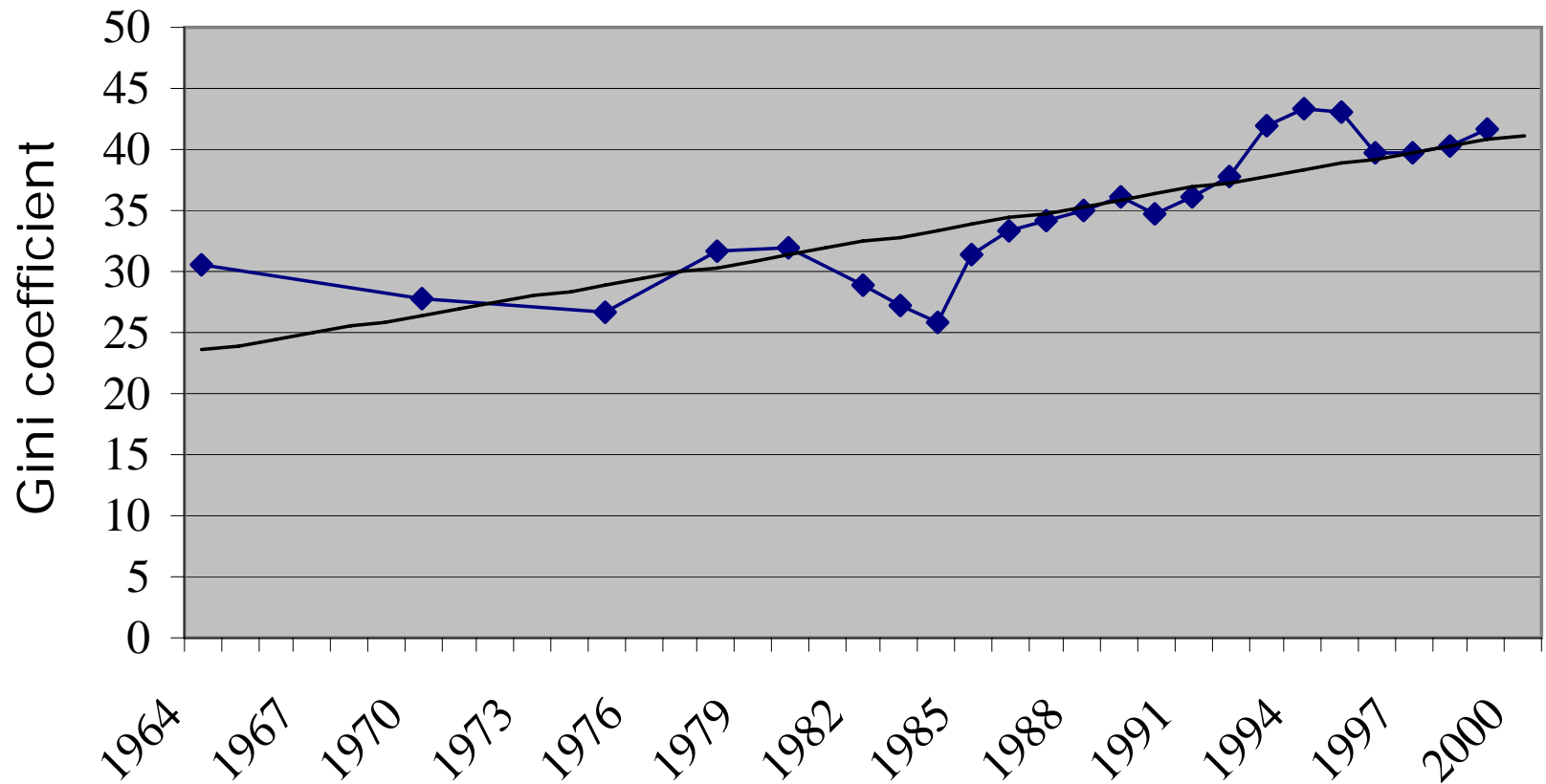


Within country inequality: Historical trends in inequality United Kingdom (World Bank, 2000)



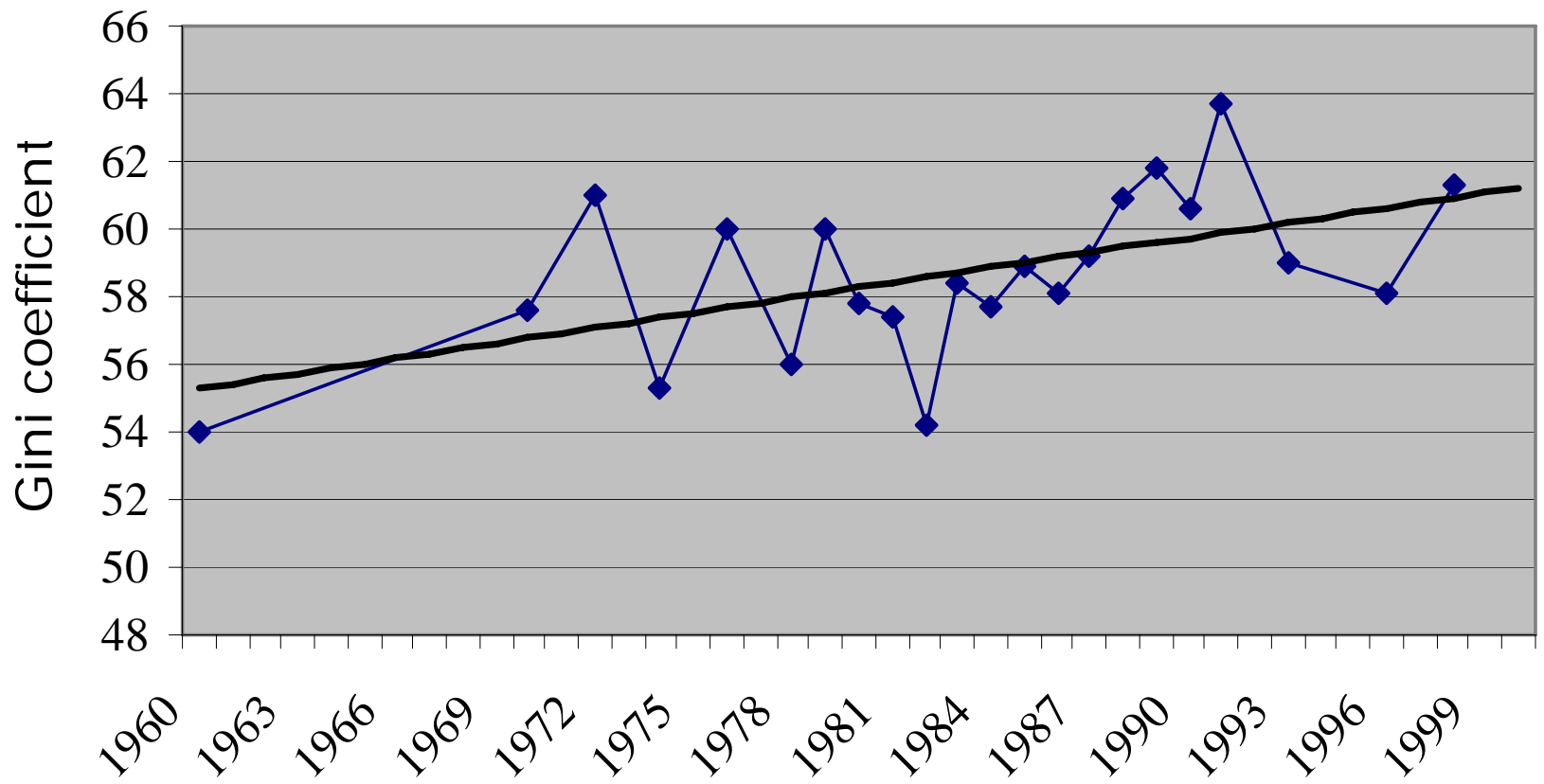


Within country inequality: Historical trends in inequality China (World Bank, 2000)



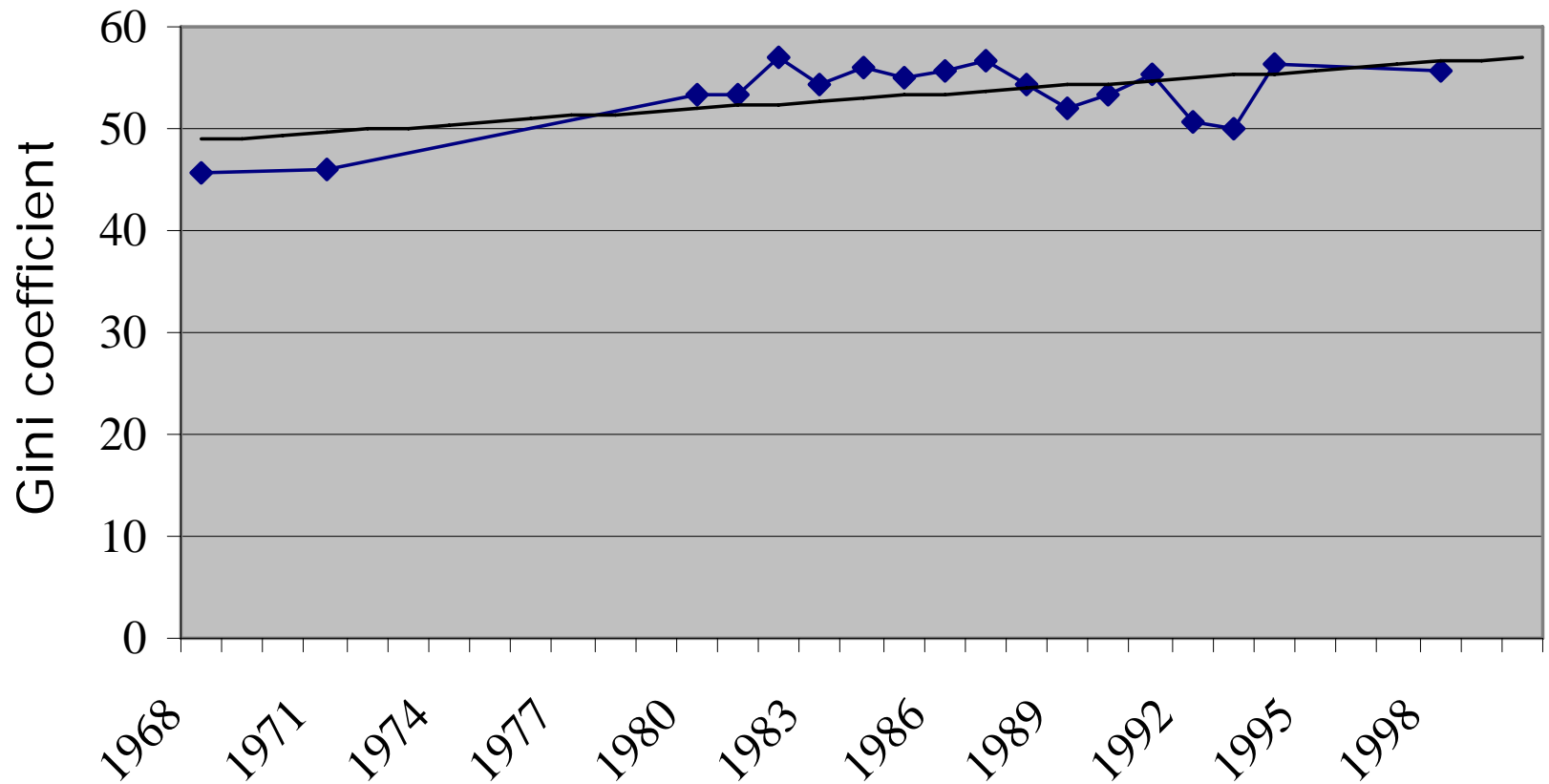


Within country inequality: Historical trends in inequality Brazil (World Bank, 2000)



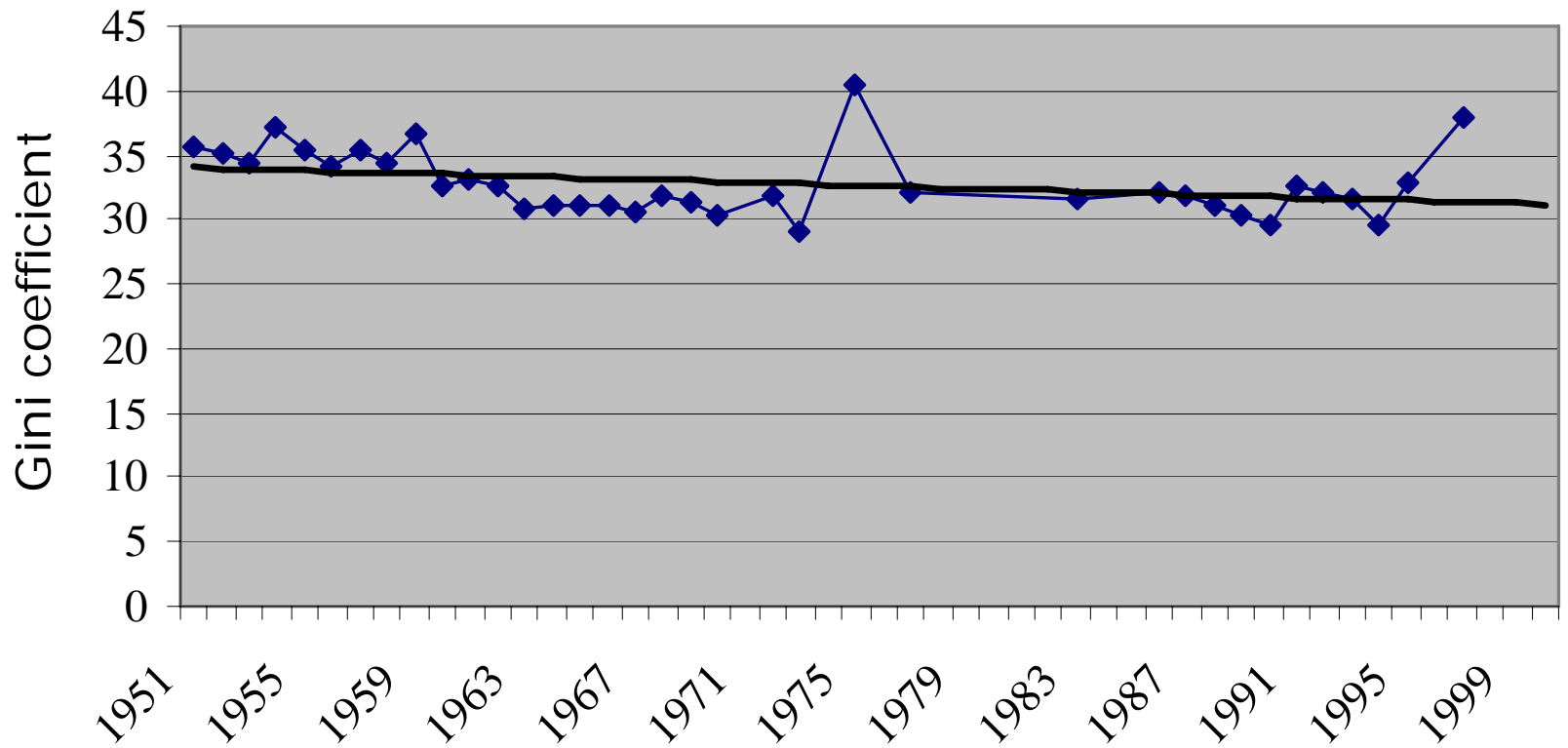


Within country inequality: Historical trends in inequality Chile (World Bank, 2000)



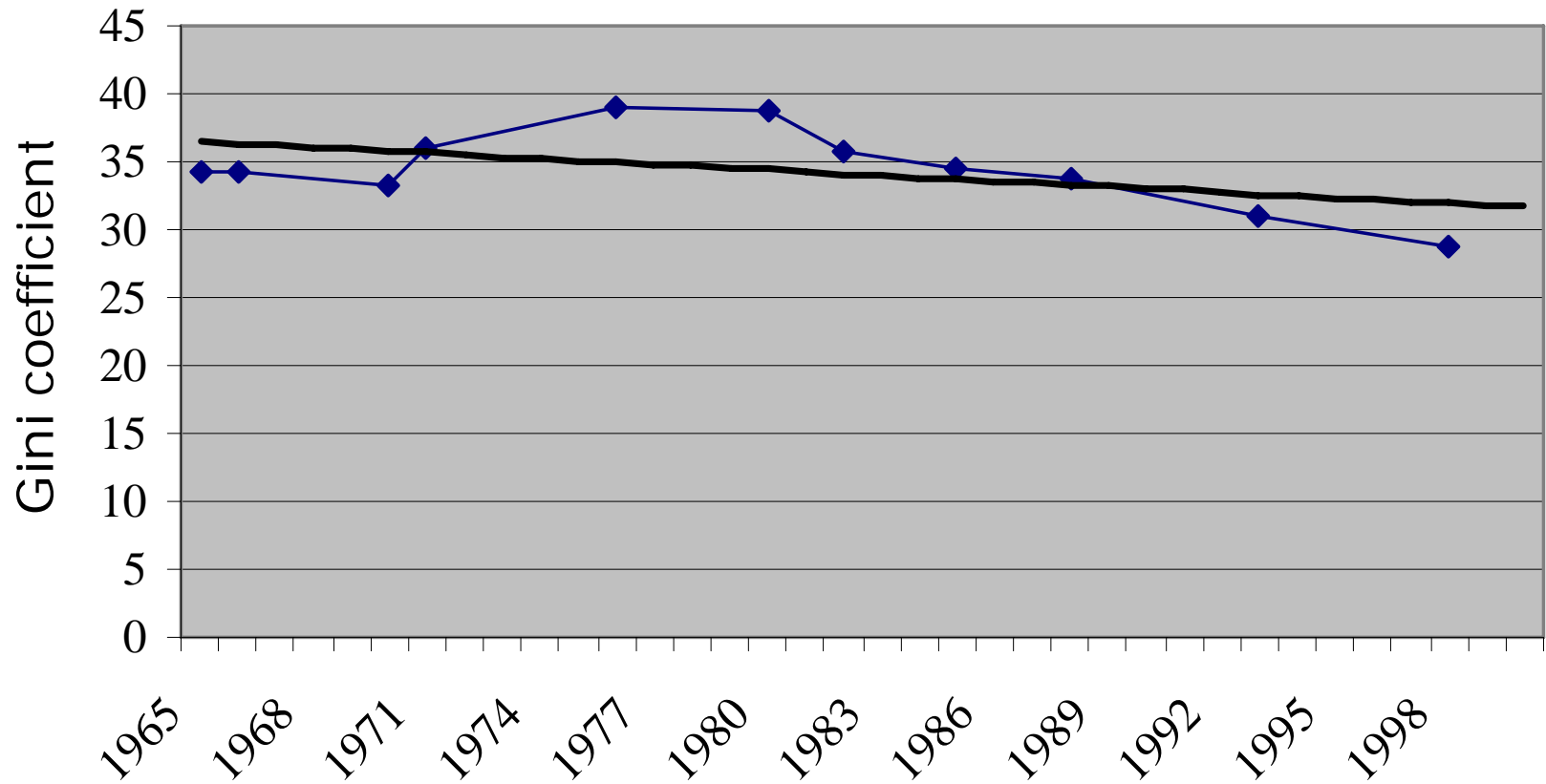


Within country inequality: Historical trends in inequality India (World Bank, 2000)



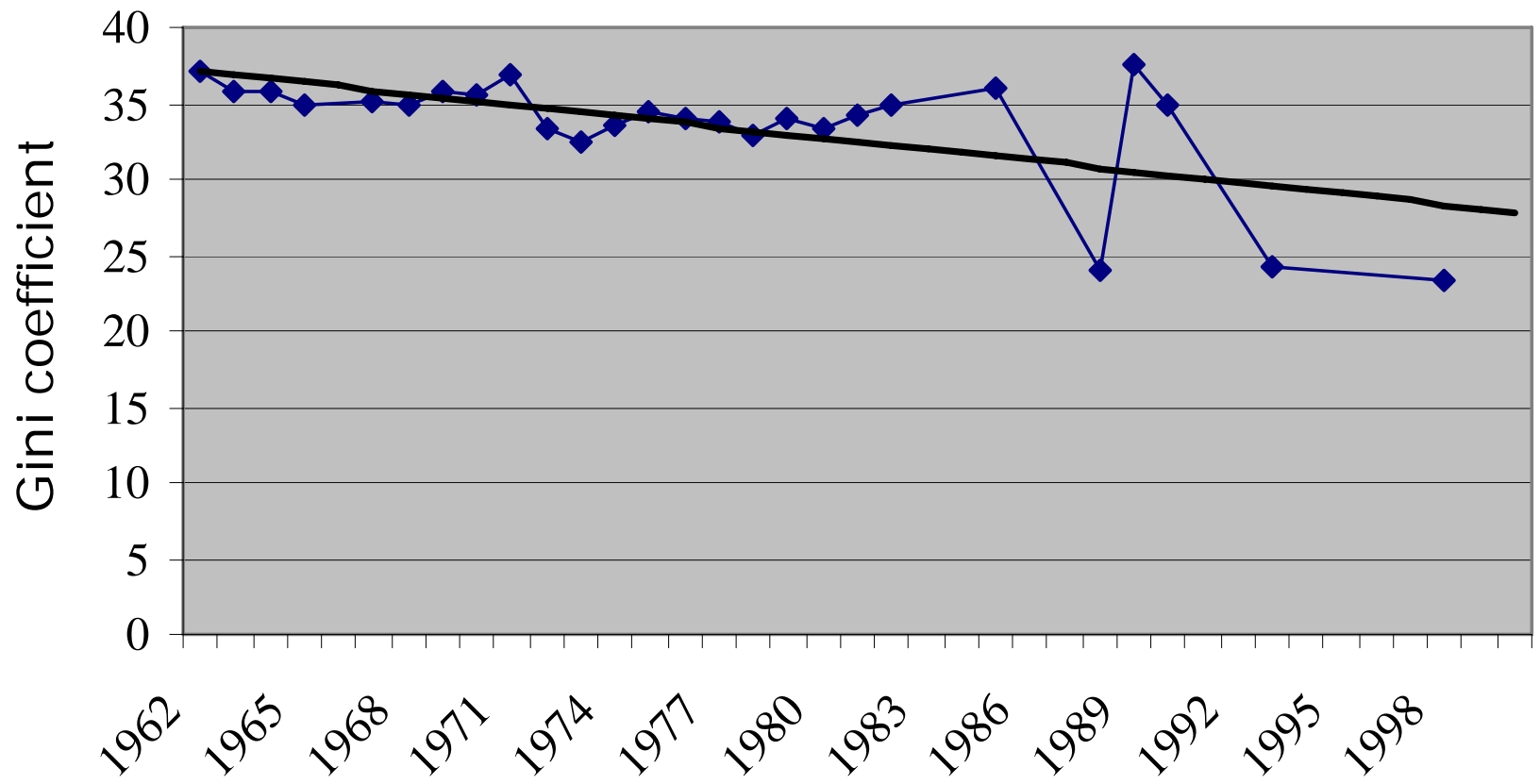


Within country inequality: Historical trends in inequality Rep. of Korea (World Bank, 2000)



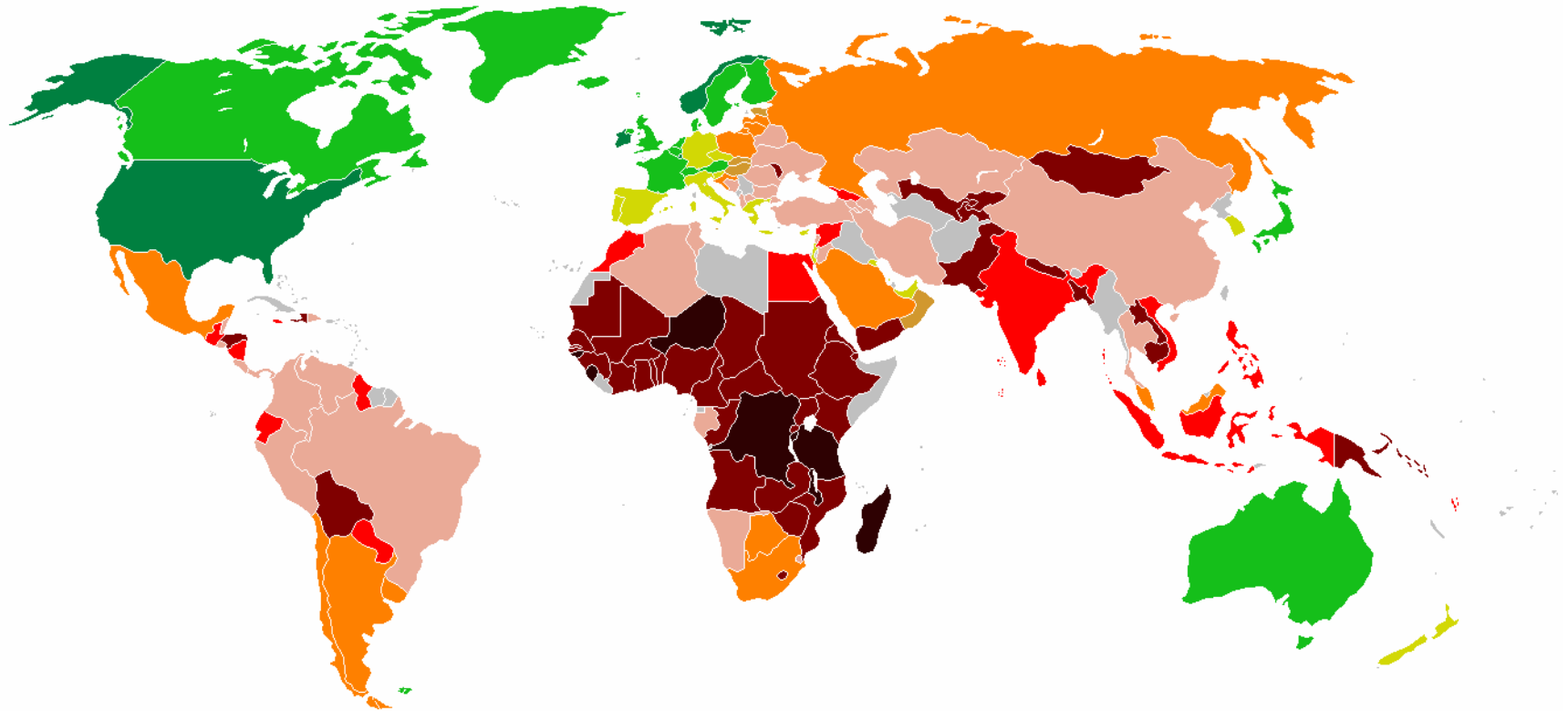


Within country inequality: Historical trends in inequality Japan (World Bank, 2000)





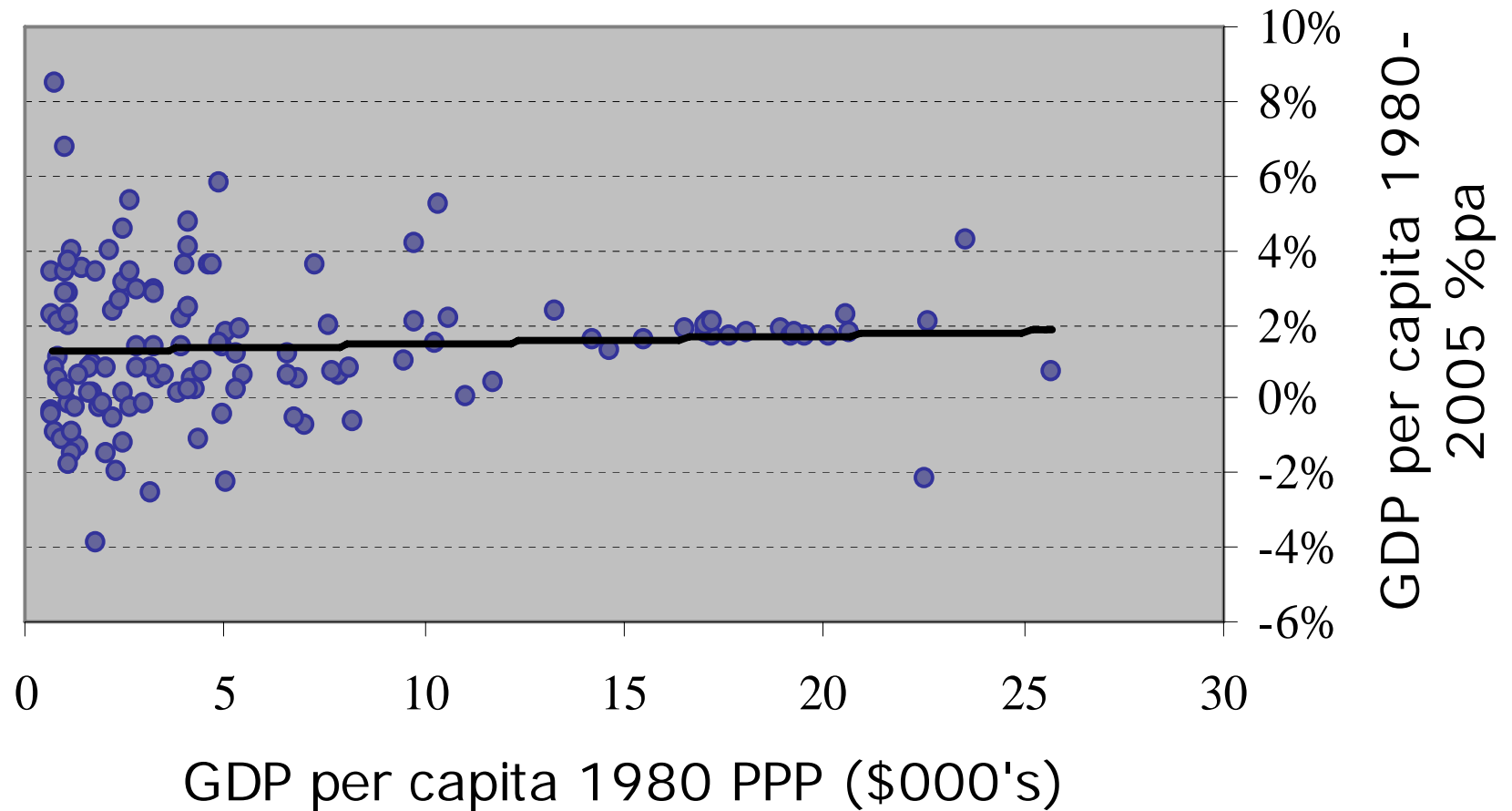
Between country inequality: GDP per capita US\$ (1000s) PPP



Source: World Bank 2005

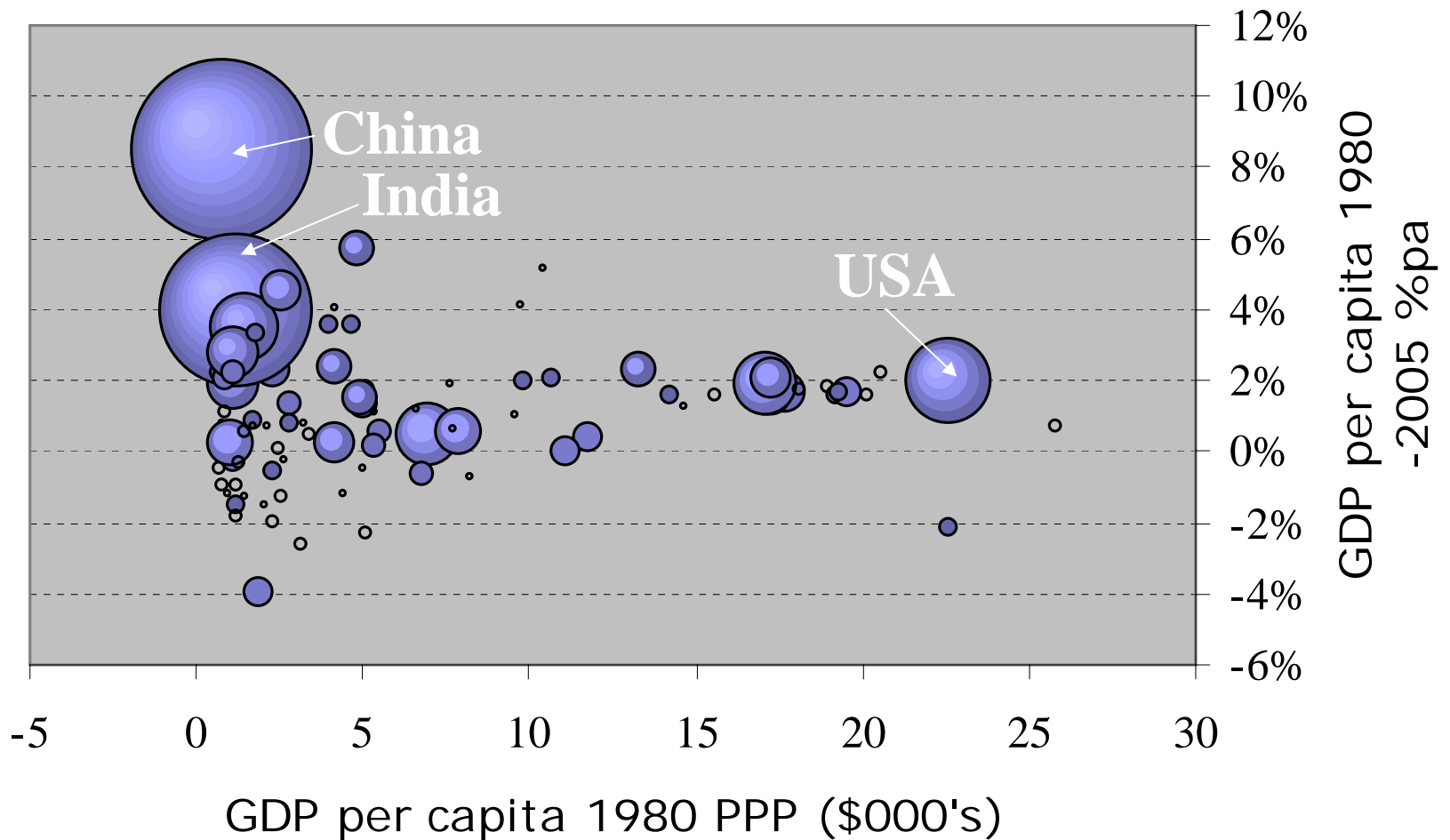


Between country inequality: Historical trends in inequality



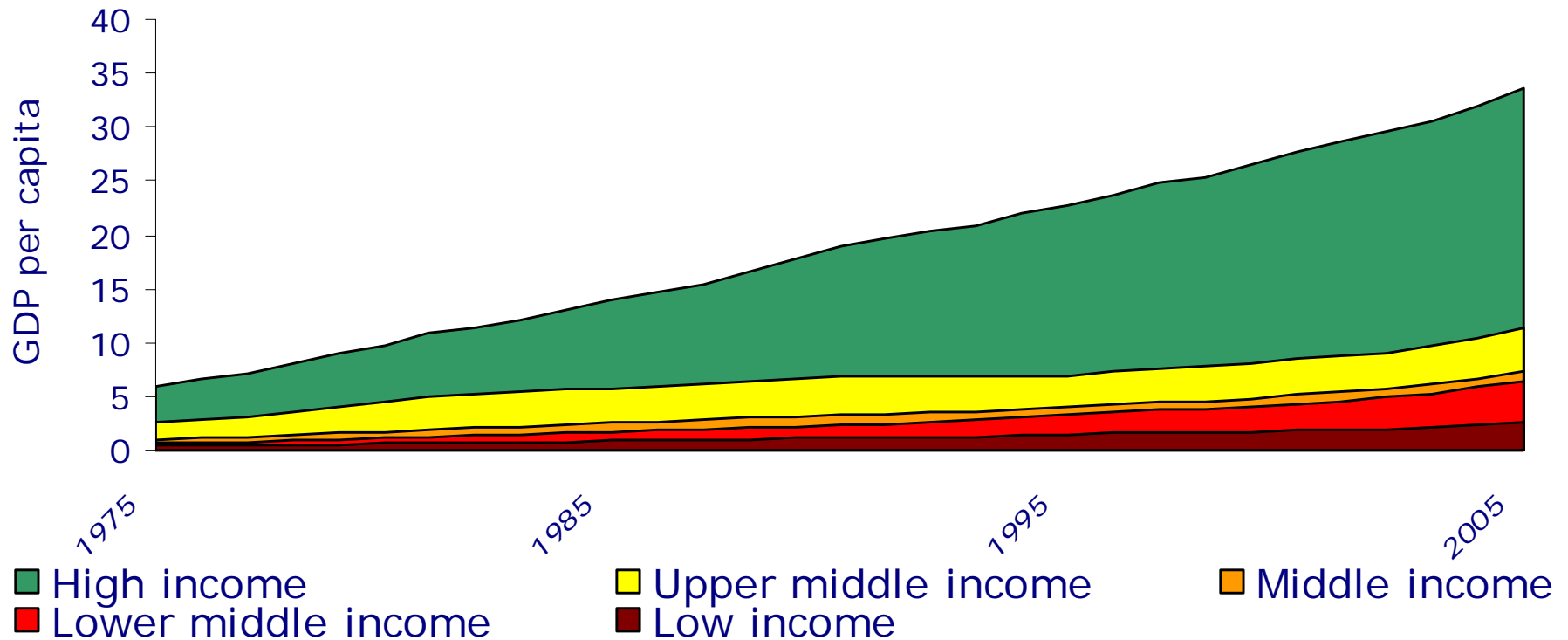


Between country inequality: Historical trends in inequality



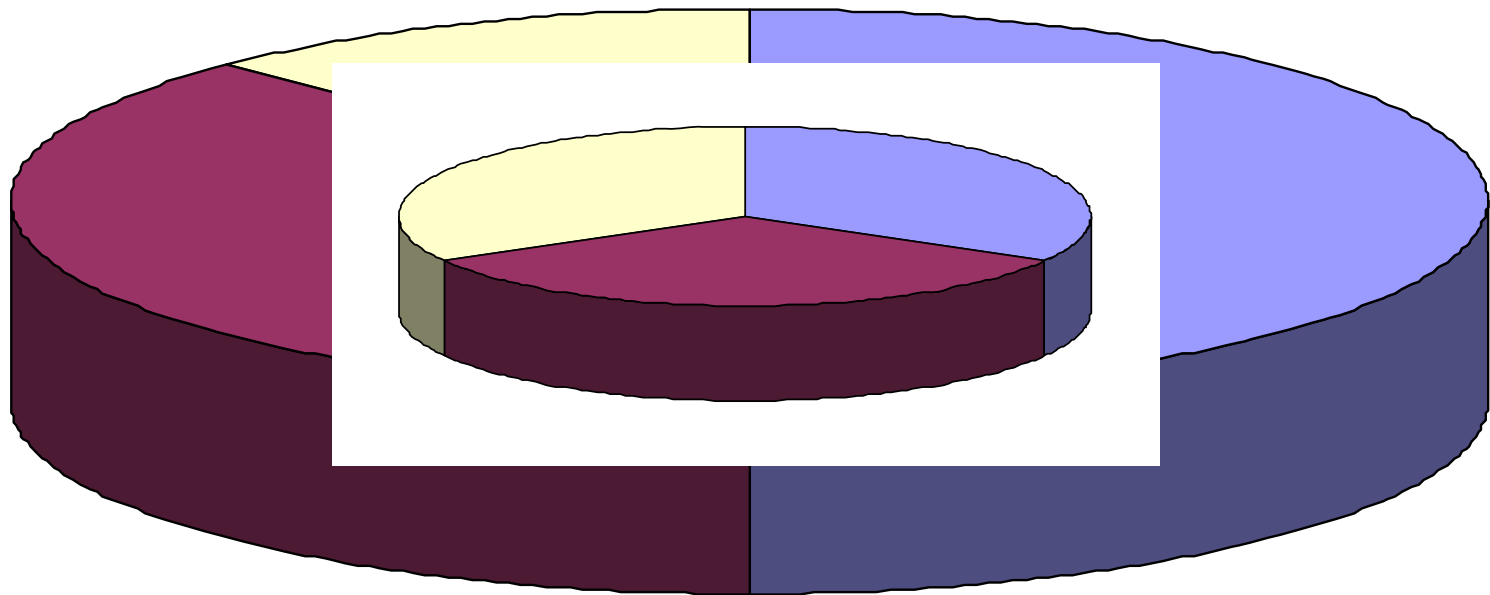


Between country inequality: (Alt.) Historical trends in inequality





Efficiency versus equity





Pareto efficiency

- No individual can be made better off without another being made worse off
- If an economy is not efficient a Pareto improvement can be made
- This may require compensation
 - Winners and losers from trade
 - Winners win more than losers lose
 - Winners can compensate the losers
- However, Pareto efficiency does not require an equitable distribution of wealth
 - Pareto optimality



Theoretical Perspectives on Inequality and Poverty



Theoretical perspectives on inequality and poverty: Overview

- Within country inequality:
 - Stolper-Samuelson theorem
 - Intra-industry trade
 - Technological change
 - Labour demand elasticity
- Poverty alleviation:
 - Transmission mechanisms between trade and poverty
 - Trade and growth
- Interim conclusions



Within Country Inequality



Within country inequality: Stolper-Samuelson theorem

- Heckscher-Ohlin model:
 - 2 countries
 - 2 factors
 - 2 goods
- Trade based on relative factor abundance
- Stolper-Samuelson theorem
 - $W_{abundant} / W_{scarce} = P_X / P_M$
- Heckscher-Ohlin theorem:
 - Countries export goods that use intensively those factors of production that are relatively abundant at home and import goods that use intensively factors that are relatively scarce



Within country inequality: Intra-industry trade

- Stolper-Samuelson doesn't apply to intra-industry trade
- Variants of monopolistic competition trade theory more applicable:
 - Manasse and Turrini (2001)
 - Firms supply different product varieties
 - Firms that employ better workers manage to capture larger market shares
 - Barriers to trade mean that the decision to export is endogenous
 - As barriers to trade fall, more firms export
 - Competition for skills increases, thus skill premium increases
 - Therefore inequality rises both within and between sectors



Within country inequality: Technological change

- The interaction between trade and technological change is complicated
- Some models say that trade can cause technological change and thus increase inequality
 - Duranton (1999)
 - Upstream producers face a choice of technology: 'advanced' or 'traditional'
 - 'Advanced' requires skilled labour, 'traditional' requires unskilled labour
 - With a small market, there are less incentives to utilize 'advanced' technology as the customer base will be small
 - By expanding the market, trade increases the incentives to use 'advanced' technology
 - Skilled workers benefit but unskilled workers lose out



Within country inequality: Technological change

- Some models suggest that trade-induced technological catch-up exacerbates inequality in both developed and developing countries
 - Zhu and Trefler (2005)
 - Technological catch-up in the South
 - Production of least skill intensive Northern goods migrates to the South
 - There they become the most skill-intensive goods
 - Thus, the demand for skills, and hence wage inequality, rises in both regions



Within country inequality: Technological change

- Technological change absent trade can cause rising inequality
 - Berman, Bound and Machin (1998) etc.
 - Skill based technological change is (unskilled) labour saving
 - In a closed economy with Heckscher-Ohlin production this leads to a relative increase in the production of the least skill intensive good
 - This lowers the price of this good
 - Which lowers the relative wages of unskilled workers



Within country inequality: Technological change

- However, trade acts as a catalyst for technological change
 - Grossman and Helpman (1995) etc.
 - Trade grants countries enhanced access to the international stock of knowledge
 - Trade increases competition and thereby fosters innovation
 - Acemoglu (2003),
 - The skill-bias of technology may be endogenous to the amount of trade between countries in the North and South
- The relative magnitude of the effects of trade and the effects of technological change on inequality is thus a difficult empirical question



Within country inequality: Labour demand elasticity

- Trade may also affect the sensitivity of labour demand to wage changes, i.e. the price elasticity of labour demand
- Several channels:
 - Rodrik (1997), Scheve and Slaughter (2004)
 - Increased competition associated with trade openness means that cost increases translate into larger declines in output



Within country inequality: Labour demand elasticity

- Scheve and Slaughter (2004)
 - Trade facilitates the globalization of production via FDI and the importation of intermediate inputs
 - Globalization thus gives firms access to foreign factors of production
 - This expands the set of factors firms can substitute towards in response to higher domestic wages



Within country inequality: Labour demand elasticity

- Ethier (2005)
 - Explains the emergence of the skill premium, the presence of skill-biased technological change and the increase in the elasticity of demand for unskilled labour
 - A decrease in the cost of outsourcing will increase the skill premium in both countries
 - Increased globalization is also associated with increased fragmentation of production
 - More fragmentation increases the elasticity of demand for unskilled labour



Within country inequality: Labour demand elasticity

- Two key differences between factors engendering shifts in labour demand and those affecting the elasticity of demand
 - Shifts in demand require trade to take place, whereas changes in the elasticity of demand simply requires the possibility of trade
 - Factors affecting the elasticity of demand are those that pit domestic workers against foreign workers



Poverty Alleviation



Poverty alleviation: Transmission mechanisms between trade and poverty (Winters, 2002)

- Causal connections between trade and poverty alleviation
- Households
 - Make production as well as consumption and labour-supply decisions
 - Welfare dependent upon:
 - Income received from factors of production
 - Prices of all goods and services
- Effect of a price change depends upon whether the household is a net supplier or net demander
- Adaptability determines magnitude of effects



Poverty alleviation: Transmission mechanisms between trade and poverty (Winters, 2002)

- Checklist for policy makers to assess the poverty impact of trade reforms:
 - Will the effects of changed border prices be passed through to the rest of the economy?
 - Is reform likely to destroy effective markets or create them and allow poor consumers to obtain new goods?
 - Is it likely to affect different household members differently?
 - Will its spillovers be concentrated on areas/activities of relevance to the poor?



Poverty alleviation: Transmission mechanisms between trade and poverty (Winters, 2002)

- What factors are used intensively in the most affected sectors? What will be the mix of wage and employment effects? Will wages exceed poverty levels?
- Will the reform actually affect government revenue strongly?
- Will it lead to discontinuous switches in activities? If so, will the new activities be riskier than the old ones?
- Does the reform depend upon, or affect, the ability of poor people to take risks?



Poverty alleviation: Transmission mechanisms between trade and poverty (Winters, 2002)

- If the reform is broad and systemic, will any growth it stimulates be particularly equalizing?
- Will the reform imply major shocks for particular localities?
- Will transitional unemployment be concentrated on the poor?



Poverty alleviation: Trade and growth

- Economic growth is the key to permanent poverty alleviation
- Bruno et al. (1996), Roemer and Gugerty (1997), Dollar and Kraay (2000) etc
 - Find that growth is related to reductions in poverty
- Unless growth seriously worsens income distribution, absolute poverty will decrease with growth
- Necessary to understand the channels through which growth affects poverty



Poverty alleviation: Trade and growth

- Myriad theoretical perspectives
- Openness promotes technological development
 - Easterly and Levine (2001)
 - Technical progress is the main determinant of growth
- Openness promotes competition
 - Increased domestic competition
 - Exposure to foreign competition
 - Leads to a reduction in inefficient market power
 - Provides enhanced incentives to improve efficiency



Poverty alleviation: Trade and growth

- Openness can lead to income volatility
 - Newberry and Stiglitz (1984)
 - Open economies face greater price stability
 - This leads to greater volatility in producer income
 - Absent the option of insurance, producers will move out of risky industries
- Without efficient resource-channelling institutions, openness may cause recessions



Poverty alleviation: Trade and growth

- Feder (1983) neoclassical growth model
 - Export sector is inherently more productive
 - Export sector conveys externalities on the non-export sector
 - Dynamic gains from trade (i.e. technological diffusion)
 - Increasing earnings from export growth stimulates domestic aggregate demand
- Neoclassical reasoning predicts convergence of growth rates across the world
- Endogenous growth theory assumes increasing returns
- Growth rates diverge
- Virtuous/vicious circles of growth



Poverty alleviation: Trade and growth

- Dixon and Thirlwall (1975)
 - Model of export-led growth based on increasing returns
 - Verdoorn coefficient
 - Growth feeds back into reductions in domestic prices
 - Endogenously raises export demand
 - Equilibrium growth rate dependent upon a variety of country-specific factors
 - Thus, growth rates will not necessarily converge, and may actually diverge



Interim Conclusions



Trade and inequality: Interim theoretical conclusions

- A diverse range of theoretical perspectives exists regarding the connections between trade and inequality, poverty and growth
- There are no *a priori* reasons to favour one approach over another
 - Indeed the approaches are not necessarily mutually exclusive
 - May counteract each other
- The appropriate mix of theoretical approaches appears to be context specific
- Aside from lending support to theory, empirical analysis is required to disentangle the relative magnitude of the different approaches in reality



Trade and inequality: Interim theoretical conclusions

- Policy prescriptions have to be context specific given:
 - The range of transmission mechanisms from trade to poverty alleviation and growth
 - Cross-country differences in factors affecting these transmission mechanisms