Trade Theories, Growth & Development

Trade Theories		Assumptions	Trade & Development Patterns due to	Predictions of the Theory	Policy framework & recommendations	New developments to, & critique of theory
Theory	**References**					
Neo-Classical Theories: emphasis on exchange, factor endowment, equilibrium through price adjustment and imperfect competition						
Factor Endowment Theories 2x2x2 models HO capital x labour Wood skilled labour x land	Amsden 1986, Edwards 1985, Dosi and Saute 1988, Greenway 1991, Heckscher 1919, Ohlin 1967, Stewart 1984 and 1976, Wangwe 1994, Wood 1994.	Neo-classical assumptions: perfectly competitive markets; perfect factor mobility or its equivalent; similarity of production functions; technological blueprints; non-reversibility of factor intensities; similarity of preferences.	*General:* differences in factor endowments reveal comparative advantages & determine trade patterns. Comparative advantages may equal absolute advantages or result from price changes (due to changes in the exchange rate and/or money stock). *HO:* Factor endowments are capital and labour. Comparative advantages determined by their price ratio, which in turn is determined by their relative intensity. *Wood:* Factor endowments are skilled labour and land. This is supposed to solve the Leontieff paradox.	*General:* Specialisation due to factor endowments leads to three major results: (i) welfare gains, both for consumers and producers; (ii) factor price equalisation; (iii) convergence of growth and development patterns. *LDCs:* (i) labour immobility is compensated for by capital mobility; (ii) inflows of capital; (iii) balanced current account; (iv) industrialisation.	Trade liberalisation and minimal role for management of the money stock and exchange rate.	*Critique:* (i) description of a 2x2x2 model under the assumptions, but cannot explain differences; (ii) capital controversy – impossibility of determining capital intensity; (iii) relative prices cannot be determined until distribution of surplus is solved; (iv) capital and labour are produced by a socio-economic process; (v) factor reversibility – same good produced with different technologies; (vi) factor supply responses – differences in specialisation may be reinforced; (vii) factor intensities too large to equalise; (viii) non-traded goods; (ix) convergence between similar economies, and divergence between different ones.
Revisionist Approaches 1: Economic Similarities	Ben-David & Loewy 1996, Ben-David & Rahman 1996, de la Fuente 1995, Murat & Pigliaru 1994, Romer 1986, 1987, 1990	Neo-classical assumptions, with the peculiarity that preferences and production functions are similar only between countries of similar income level and economic structure, and technology is endogenous.	Innovation: quality an cost advantages due to R&D. Product differentiation and process improvement developed for the home market (if this is large enough) and then exported to countries of similar preferences. These advantages may also create the market. Being in the market allows for further R&D accumulation.	More trade between countries of similar economic conditions. Innovation increases trade opportunities, which in turn promote innovation. Open economies benefit more because of increasing trading opportunities and international R&D spillovers.	Generally the same, with an element of intervention (most likely an activity specific subsidy) to reduce first mover risks and promote innovation.	*New:* (i) explain convergence (divergence) between countries of similar (different) economic conditions; (ii) role of, and relationship between innovation and market size; (iii) role for intervention. *Critique:* (i) technological blueprint – if it is available, trade may be enough to acquire it; (ii) pattern of production/trade is forever; (iii) R&D is an added input; (iv) what about LDCs.

Revisionist Approaches 2: <u>Strategic trade theories</u>		Neo-classical assumptions, with the following peculiarities:				*<u>New</u>:* (i) combination of strategic industrial and trade theories. *<u>Critique</u>:* (i) rational, profit maximising firms; (ii) decision making excludes labour; (iii) trade between countries; (iv) price mechanism.
Rent-snatching in international markets	Brander & Krugman 1983, Helpman & Krugman 1985, Krugman (ed.) 1986, Stewart 1991.	Specialised market characterised by huge economies of scale can only sustain one profitable firm. Sunk-costs and learning economies are high. Two firms competing for this market.	Highly specialised case of factor endowment theories, with a case for state intervention in strategic trade to a market imperfection (duopoly), and the peculiarity of discussing inter-firm strategies.	(i) no firm moves and trade opportunity is lost; (ii) two firms enter the market and both lose; (iii) one firm is subsidised and the other exits; (iv) both firms are subsidised and huge losses occur; (v) firms decide for collusion.	Role for strategic state intervention to avoid losses due to price wars and reduce transaction costs associated with coordination.	*<u>New</u>:* (i) market imperfections and duopoly; (ii) strategic state intervention and possible cooperative game. *<u>Critique</u>:* (i) uncertain outcome – rules, number of players and number of games; (ii) generalisation and policy implications.
Hysterisis in Exports	Giovanneti and Samiel 1996	Exchange rate movements are non-stationary, stochastic processes; irreversible costs in imports and exports (customer regulations, networks and market share); oligopolistic interaction between firms.	Market penetration is due to quality and cost advantages (not explained), and also involves development of networks, product regulation, brand name, etc. – which entail irreversible costs.	Firms adjust only to very large changes to relative prices that last for long time so that cost of staying in the market outweigh costs of exit. Firms protect their market share even at the cost of profit losses in the short term.	Role for intervention due to imperfect information. Intervention may reduce transaction (or uncertainty) costs, losses from sunk cost and promote exports.	*<u>New</u>:* (i) uncertainty and imperfect information; (ii) market share as investment; (iii) rigidities to price changes. *<u>Critique</u>:* (i) primacy of price adjustment; (ii) blueprint institutions.
R&D rivalry	Spencer & Brander 1983	Imperfect competition, where R&D rivalry between firms play an important role in markets with scale economies. R&D precedes production, and firms anticipate advantages from R&D.	R&D creates cost (or productivity or process) and quality (or product differentiation) advantages.	R&D rivalry between firms explains R&D investment. R&D advantages explain trade advantages. Competition may lead to excess R&D.	Government is first player. First best – subsidisation of exports. Second best – subsidisation of R&D; pre-commitment (for firms to engage in R&D) or threat (to deter entry). Helps capture rents in imperfect markets. Government must subsidise R&D before it takes place, and pursue strategic R&D policies to prevent over investment in R&D.	*<u>New</u>:* (i) more generalised version of the previous two cases; (ii) link between trade policy and industrial strategy; (iii) analysis of different policy alternatives in strategic games; (iv) possible cooperative game. *<u>Critique</u>:* (i) R&D as a blueprint; (ii)) uncertain outcome – rules, number of players and number of games.

Revisionist Approaches 3: <u>Scale and Learning Economies</u>	Coe & Helpman 1993, Grossman & Helpman 1995 and 1990a and b, Wangwe 1994.	Neo-classical assumptions with the specificity of addressing market imperfections in the form of increasing returns (due to high initial capital costs) and/or decreasing costs (due to learning economies).	Advantages resulting from accumulation of experience, reduction of X-inefficiency, enlargement of the market, innovation and skill development. Technological capabilities associated with capital intensity and associated specialisation. Initial factor intensity determines ability to take advantages of learning and scale economies.	Scale and learning economies create trade advantages, which help scale and learning economies to happen. Large domestic markets help to build cost advantages in capital-intensive industries, which in turn help to penetrate new markets. Intra-industry trade is an example of this. Countries that innovate export new products at high prices and once the industry has matured export the technology and import the product at low prices (product cycle). Countries that innovate export to countries that lag behind (technological gap).	Open economies explore more efficiently scale and learning economies, because of four main reasons: (i) size of the market; (ii) forex earnings that support investment; (iii) competition discipline; and (iv) spillovers from world stock of knowledge. Help economies of scale to develop either through protection contingent to export performance, or direct subsidies to specific activities (training, technology, innovation, etc). Help first movers into the industry with learning economies (because of non-convexities), either through protection or direct subsidies.	<u>*New:*</u> (i) endogenous comparative advantages through design; (ii) trade theory linked with characteristics of productive processes; (iii) different path of development associated with different patterns of specialisation; (iv) explanation of intra-industry trade. <u>*Critique:*</u> (i) does not live up to its own conclusions, because in the end it is tied to the neo-classical factor intensity framework; (ii) technology as an added input and a blueprint – knowledge can be treated like a stock and is readily available to be accessed.

Cost of Production Theories: critical of free markets but attempt to restructure it; focus on the distribution of a technologically fixed surplus

Ricardo's comparative advantage	Cole *et al* 1991, Edwards 1985, Ricardo 1971	(i) Technology, surplus and distribution are exogenous; (ii) distribution and production of a technologically fixed surplus are separated; (iii) prices are not a measure of social worth, but reflect distributional conflicts; (iv) subsistence wages; (v) technology differs across countries; (vi) the state operates above class interests; (vii) immobility of capital and labour between two countries.	Differences in technology determine specialization in an open economy and affect the price ratios depending on the relative rate of profits. Cheap imports of wage goods lower subsistence wage and increase the rate of profit on the industry in which the country specialises.	Both countries gain from trade because of changing patterns of consumption (exchange gains). Cheap imports of wage goods lower subsistence wage and increase the rate of profit on the industry in which the country specialises. State intervention is required to free international trade so that the fall in the rate of profits accruing to capitalist is postponed.	Free trade compensates for the impossibility of increasing productivity in agriculture. State interference to ensure free external trade of corn.	<u>*New:*</u> (i) likelihood that countries have very different gains from trade and convergence is not likely to happen; (ii) importance of the pattern of accumulation: to whom the surplus accrues; (iii) prices do not reflect social worth. <u>*Critique:*</u> (i) country level analysis of trade; (ii) focus is on distribution, rather than production, of a technologically fixed surplus; (ii) wages, profits and technology are exogenous.

Sraffa	Cole *et al* 1991, Edwards 1985, Sraffa 1960, Steedman 1979a and b.	(i) Technology, surplus and distribution are exogenous; (ii) distribution and production of a technologically fixed surplus are separated; (iii) prices are not a measure of social worth, but reflect distributional conflicts; (iv) technology differs across countries.	Trade occurs because of differences in technology that affect price ratios of goods being produced in different countries, and so determine specialisation. Emphasis on choice of technique and its implications for gains and losses from trade.	Gains from trade: exchange gains (changes in the pattern of consumption); and specialisation (as a result of trade, factors move to the more profitable activity). Losses from trade: if factors are inflexible may become unemployed as a result of trade specialisation. If prices are flexible and encourage technology change, previously operating capital has to be scraped and labour may become unemployed. To increase production and trade in good 1, a country may have to reduce production in good 2 by more than they can buy with the marginal good 1.	Strong role for guided trade through policy and strategy, in particular about choice of technique and nature of specialisation.	<u>New:</u> (i) same as Ricardo, but raising the possibility of losses from trade due to factor inflexibility and price flexibility that may change technique and induce unemployment; (ii) very potent critique of the HO factor endowment theory; (iii) clear awareness about the need for guided trade and specialisation. <u>Critique:</u> (i) same as Ricardo; (ii) the emphasis on the restructuring of the market that they criticise.
Unequal Exchange *Prebisch-Singer declining terms of trade*	Edwards 1985, Prebisch 1964, 1962 and 1959, Singer 1975 and 1950, Edström and Singer 1992, Sarkar and Singer 1991.	Periphery exports primary products and core exports manufactures. Low price and income elasticities of demand for primary products, made worse by technical change and protection in the core. Prices of pp rise faster in upswing periods, but fall more rapidly in downswing, because relatively higher bargaining power of industrial workers against agricultural workers, and workers in the periphery and the core). Lewis (1954) explained this process as a result of the unlimited supply of labour.	Exchange due to differences in patterns of production and specialisation derived from differences in technology, which are, in turn, reinforced by trade (pp exporters have to produce and export more pp to buy the same amount of manufactures; manufacturers buy proportionally less pp as income rises).	Barter terms of trade of pp versus manufactures decline secularly and pp exporters face a structural balance of payments deficit. Hence, LDCs lose from unequal exchange. Late, Singer has suggested that price instability of pp may be as important, if not more important, than falling BTT for the losses that accrue to LDCs from unequal exchange. Though pp exporters still have some gains from trade, Prebisch-Singer Theory is a complaint about the distribution of gains from trade.	Market forces alone cannot solve this problem. Need for state intervention to foster industrialization. Taxing exports of pp or imports of manufacturing can do this. Alternatively, pp BTT can be indexed to those of manufacturing, and the difference could be transferred back to the LDCs.	<u>New:</u> (i) gains and losses from trade are relative, not necessarily absolute; (ii) they are also specific to certain types the countries (more gains to core economies and less gains to the periphery) and products; (iii) specific policy recommendations to promote industrialisation. <u>Critique:</u> (i) same as Ricardo and Sraffa; (ii) the role of productivity, quality and innovation and its impact on relative prices.

Emmanuel's unequal exchange	Edwards 1985, Emmanuel 1972 and 1974	(i) Differences in bargaining power of workers in the core and periphery that affects wage rates, and so prices; (ii) pattern of international specialisation given by technology; (iii) tendency towards the international equalisation of the rate of profits due to capital mobility; (iv) labour immobility.	Trade results from differences in patterns of specialisation given by technology. Unequal exchange is derived from differences in the rate of exploitation (which is understood as resulting from wage differences).	Trade occurring between countries of different technological development is bound to generate unequal exchange due to wage differences (hence, differences in the rate of exploitation since profits are given); higher wages in more advanced countries tend to generate more technical progress and widen wage differences. Unequal exchange means that a country changes goods in which more labour time is embodied by goods in which less labour time is embodied. The reason why capital mobility does not overcome this problem is because of differences in technology and the location of the main markets.	Change the institutional conditions under which international trade takes place. In particular, LDCs should bargain together to raise their wage rates and the prices of their goods (example, through cartels).	<u>*New:*</u> (i) gains and losses from trade are relative, not necessarily absolute; (ii) they are also specific to certain types of countries (more gains to core economies and less gains to the periphery); (iii) free markets may well lead to unequal exchange; (iv) unequal exchange results from unequal wage rates given differences in technology. <u>*Critique:*</u> (i) same as Ricardo; (ii) limits to unequal exchange due to capital mobility; (iii) there are also wage differences between and within groups within countries; (iv) country, not classes, gain and lose from unequal exchange; (v) misinterpretation of the technical concept of exploitation in Marx; (vi) wage is the independent variable (in Marx, capital accumulation, not wage, is).

Dependency Theories: international system of capitalism, through exchange, creates underdevelopment						
Creation of Underdevelopment	Amin 1972 and 1976, Baran 1957, Edwards 1985, Frank 1967, 1972 and 1978, Wallerstein 1974	Capitalism defined through market exchanges, as a system of production for the market (not by reference to control of means of production and employment of wage labour). Absolute losses of the periphery from trade, due to monopoly capitalism.	Pattern of specialisation imposed by extra economics means.	Extractive and parasitic aspects of monopoly capital lead to underdevelopment of the periphery for the benefit of the core. Worldwide tendency for stagnation under monopoly capitalism, more evident in the periphery.	Breaking the chain of dependence with the international capitalist system. Need of a technocratic, national and populist state to unify the masses for the break away from international capitalism.	*New:* (i) break away from the market and exchange under capitalism. *Critique:* (i) focus on the exchange relationships; (ii) focus on countries and nations rather than class; (iii) definition of capitalism as a system of production for the market; (iv) empirically, Third World development has been uneven but has been as fast, if not faster, than in the core.

References

Amin, S. 1976. **Unequal Development.** Harvester Press: Brighton; Monthly Review Press: New York.

Amin, S. 1972. *Underdevelopment and dependence in black Africa: origins and contemporary forms.* Journal of Modern African Studies. 10(4) (December), pp 503-24.

Amsden, A. 1986. *The direction of trade – past and present – and the learning effects of exports to different directions.* Journal of Development Economics. 23, pp. 249-74.

Baran, P. 1957. **The Political Economy of Growth.** Monthly Review Press: New York.

Ben-David, D. and M. B. Lowey. 1996. *Knowledge dissemination, capital accumulation, trade and endogenous growth.* Centre for Economic Policy Research (CEPR). Discussion paper 1335.

Ben-David, D. and A. Rahman. 1996. *Technological convergence and international trade.* Centre for Economic Policy Research (CEPR). Discussion paper 1359.

Brander, J. and P.Krugman 1983. *A reciprocal dumping model of international trade.* Journal of International Economics.

Coe, D.T. and E. Helpman. 1993. *International R&D spillovers.* Centre for Economic Policy Research (CEPR). Discussion paper 840.

Cole, K. J. Cameron and C. Edwards. 1991. Why economists disagree? The political economy of economics. (2nd edition). Longman: London and New York.

Greenaway, D. 1991. *New trade theories and developing countries.* in V.N. Balasubramanyam and S. Lall (eds). **Current issues in development economics.** MacMillan: London.

Grossman, G.M. and E. Helpman. 1995. **Innovation and growth in the global economy.** The MIT Press: Cambridge (Massachusetts) and London.

Grossman, G.M. and E. Helpman. 1990a. *Trade, innovation and growth.* The American economic Review (AEA papers). 80(2), pp. 86-91.

Grossman, G.M and E. Helpman. 1990b. *Comparative advantages and long-run growth*. The American Economic Review 80(4), pp. 797-815.

De la Fuente, A.. 1995. *The empirics of growth and convergence: a selective review.* Centre for Economic Policy Research (CEPR). Discussion paper 275.

Dosi, G. and L. Saute. 1988. *Technical change and international trade.* in G. Dosi *et al.* (eds) **Technical change and economic theory.** Pinter Publishers: London and New York.

Edström, J. and H.W.Singer. 1992. *The influence of trends in barter terms of trade and their volatility on GNP growth.* IDS discussion paper 312 (Univ. of Sussex).

Edwards, C. 1985. **The fragmented world: competing perspectives on trade, money and crisis.** Methuen: London and New York.

Emmanuel, A. 1974. *Current myths of development.* New Left Review, no. 85 (May-June), pp. 61-82.

Emmanuel, A. 1972. **Unequal Exchange – a study of the imperialism of trade.** New Left Books: London.

Frank, A.G. 1978. **Dependent accumulation and underdevelopment.** MacMillan: London.

Frank, A.G. 1972. **Lumpenbourgeoisie and lumpendevelopment: Dependency, class and politics in Latin America.** Monthly Review Press: New York.

Frank, A.G. 1967. **Capitalism and underdevelopment in Latin America.** Monthly Review Press: New York.

Giovanneti, G. and H. Samiel. 1996. *Hysterisis in exports.* Centre for Economic Policy Research (CEPR). Discussion paper 1352.

Hecksher, E. 1950. *The effect of foreign trade on the distribution of income.* in H. Ellis and L. Metzler (eds.) **Redaings in the theory of international trade.** Allen & Unwin/American Economic Association: London.

Helpman, E. and P. Krugman. 1985. **Market structure and foreign trade.** MIT Press: Cambridge (Massachusetts).

Krugman, P. 1986. *Introduction: New thinking about trade policy.* in P. Krugman (ed.) Strategic tade policy and new international economics. MIT Press: Cambridge (Massachusetts).

Murat, M. and F. Pigliaru. 1994. *Inter-sectoral spillovers of knowledge in a model of endogenous growth and trade.* Centri Studi Luca D'Agliano, Queen Elizabeth House. Development Studies working paper 74 (Univ. of Oxford).

Ohlin, B. 1933. **Interregional and international trade.** Harvard University Press: Cambridge (Massachusetts).

Prebisch, R. 1964. *Towards a new trade policy for development.* United Nations: New York.

Prebisch, R. 1962. *The economic development of Latin America and its principal problems.* Economic Bulletin for Latin America (United Nations economic Commission for Latin America), 7(1) (February), pp. 1-22.

Prebisch, R. 1959. *Commercial policy in the underdeveloped countries.* American Economic Review Papers and Proceedings, XLIX (2), pp 251-73.

Ricardo, D. 1971. **On the principles of political economy and taxation.** Penguin Books: Harmonsdworth.

Romer, P. 1990. *Are non-convexities important for understanding growth?* The American Economic Review (AEA Papers and Proceedings) 80(2), pp. 97-103.

Romer, P. 1987. *Growth based on increasing returns due to specialisation.* The American Economic Review (AEA Papers and Proceedings) 77(2), pp. 57-62.

Romer, P. 1986. *Increasing returns and long-run growth.* Journal of Political Economy 94(5), pp. 1002-37.

Sarkar, P. and H.W.Singer. 1991. *Manufactured exports of developing countries and their terms of trade since 1965.* World Development 19(4), pp. 333-40.

Singer, H.W. 1975. *The distribution of gains from trade and investment revisited.* Journal of Development Studies, 17(4), pp. 531-52.

Singer, H.W. 1950. *US foreign investment in underdeveloped areas: the distribution of gains between investing and borrowing countries.* The American Economic Review (AEA Papers and Proceedings) 40(2), pp 473-85.

Spencer, B. and J. Brander. 1983. *International R&D rivalry and industrial strategy.* Review of Economic Studies, pp. 707-22.

Sraffa, P. 1960. **Production of commodities by means of commodities.** Cambridge University Press: Cambridge.

Steedman, I. 1979a (ed.). **Fundamental issues in trade theory.** MacMillan: London.

Steedman, I. 1979b. **Trade amongst growing economies.** Cambridge University Press: Cambridge.

Stewart, F. 1991. *A note on strategic trade theory and the South.* Journal of International Development 3(5), pp. 467-84.

Stewart, F. 1984. *Recent theories of international trade: some implications for the South.* in H. Kierskowski (ed.) **Monopolistic competition and international trade.** Oxford University Press: Oxford.

Stewart, F. 1976. *The direction of international trade: gains and losses for the Third World.* in Helleiner, G.K. (ed.) **A world divided.** Cambridge University Press: Cambridge.

Wallerstein, I. 1974. **The modern world system.** Academic Press: New York.

Wangwe, S. 1994. **Exporting Africa: technology, trade and industrialisation in Sub-Saharan Africa.** Routledge: London and New York.

Wood, A. 1994. **North-South trade, employment and inequality: changing fortunes in a skill-driven world.** Clarendon Press: Oxford.