RMIT University, Semester 2 - 2004

HUSO 2078 Aid, Adjustment and Development. ***Assignment Task 2***

"Evaluate the impacts of structural adjustment on one or two of the following in a particular country or region: macroeconomic variables, individual sectors of the economy (such as the public sector, exports, industry, agriculture), poverty and welfare, women, the environment."

Health Sector Reform in Latin America 1980-2000

The role of Health in Development

The relationship between health and development is strong, but complex and indirect (Annear 2003). Health care is distributed extremely unevenly with an absolute deficiency of resources for health care in developing countries (Zwi & Mills 1995), however there is evidence that increases in health status historically precede rather than follow economic gains (Asian Development Bank 1998). The mid-20th century saw dramatic improvements in health and life expectancy related to technological advances and a focus on; primary health care, increased literacy, access to safe water, sanitation, and housing (United Nations Development Programme 1999). Increasing support for the principles of public health resulted in the Declaration of Alma-Ata in 1978; universal health was to be attainable for the people (LaFond 1995).

The seminal document that marked the end of the primary care movement and the onset of health reform was *World Development Report 1993: Investing in Health* (World Bank 1993). This publication, concurrent with escalation of health financing by the bank from $US250 million in 1988 to $US1500 million in 1992 (World Bank 1993), signalled to the World Health Organisation and UNICEF (both until 1998, equivalent in their level of health financing to that of the bank) that the World Bank was now the dominant player in both policy development and financing in the health sector (Annear 2003). *Investing in Health* (World Bank 1993) looked at the role of government and the market in health, detailing ownership and financing arrangements to improve health outcomes, reach the poorest, and contain costs. A three-pronged approach was recommended. "First, governments should foster an environment that enables households to improve health. Second, government health spending should be made more effective by reducing expenditures on the less cost-effective interventions and expanding basic public health programs and essential clinical services. Third, diversity and competition in the provision of health services and insurance should be promoted" (World Bank 1999a p. 7). However, structural adjustment policies in the health sector, that is 'health reform' have been criticized for having adverse effects on health outcomes, especially for the poor (Breman & Shelton 2001).

This essay will discuss the process of health sector reform in Latin America 1980-2000. After defining a process for evaluation, reform trends will be examined under the categories of regulation, financing, resource allocation and provision. Using data from twelve countries, health outcomes will be investigated and compared to levels of health investment. Finally conclusions will be drawn on the impact of health reform in Latin America.

Characteristics of Health Sectors in Latin America

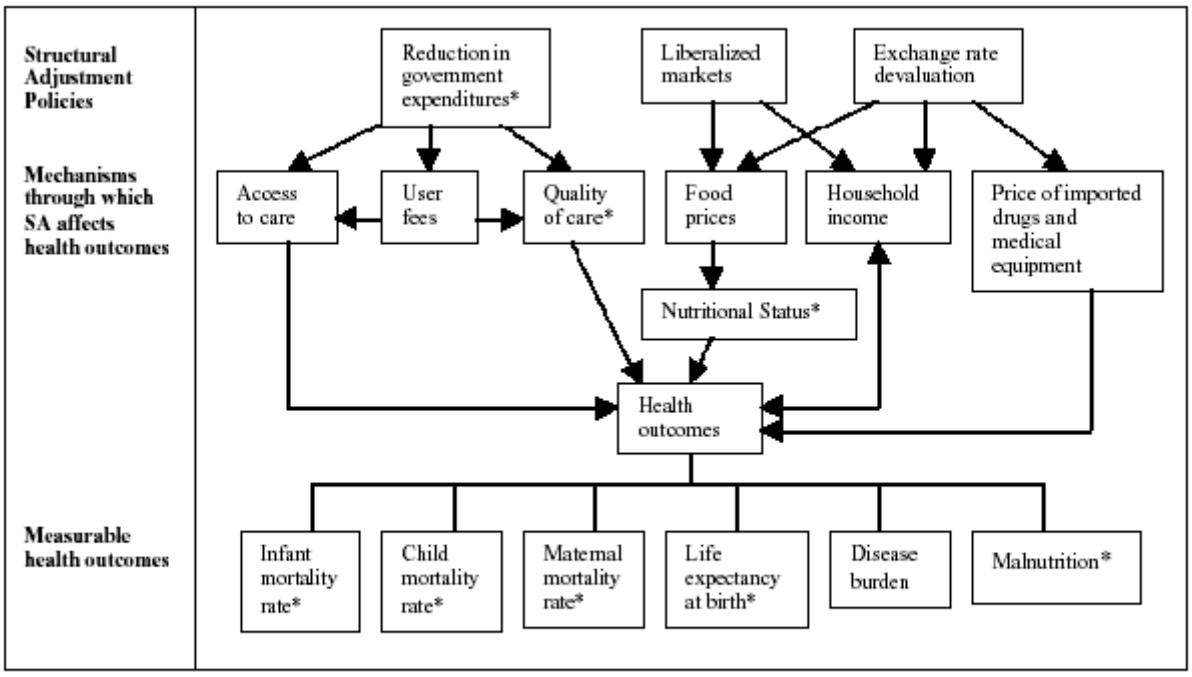
Latin America's inherited colonial health system was based on the curative public hospital model and continued to be influenced by western ideals of medical 'modernisation' (Almeida-Filho, Kawachi, Filho, Norberto & Dachs 2003). Resources were concentrated in the capitals and a few major urban centres with a high proportion of budgets orientated to secondary and tertiary services servicing urban elites rather than any preventative public health role (Cruz-Seco & Mesa-Lago 1998). Due to nationalistic political populist sentiment many countries nationalised hospitals and health services during the economic boom years of the 1950-60s (Preker & Harding 2003). Under the oppressive dictatorship of Augusto Pinochet (1973-89) comprehensive neo-liberal structural adjustment began in Chile as early as the 1970s. Reform of the health sector in Chile during the early 1980's also predates other Latin American countries, though by the end of the 20th century the majority of countries had reduced the role of the state as a service provider (Fieno 2002). Reforms of the mid-1980s and the 1990s allowed significant growth of the private sector in both the provision of health insurance and of 'for profit' health services (Structural Adjustment Participatory Review Network (SAPRIN) 2002).

Lloyd-Sherlock's (2000) typology for contemporary health systems in Latin America has four categories: the united public model (Costa Rica) is essentially universal state provided health care; the public contract model (Brazil) is similar, but private health care provision complements the public sector; the 'Bismarkian' private model (Argentina and Paraguay) uses private insurance agencies to organize the sector, and; the segregated model (the rest) which divides the population into three segments being; those insured through the formal job sector in publicly financed insurance schemes, those who have private insurance or pay out of pocket and, the poor who seek health care provided by a national Ministry of Health.

Evaluation Methods for Health Reform Programs

Breman and Shelton (2001) provide a diagrammatic representation (see Figure 1) of a theoretical framework of how three core policies of structural adjustment could impact health outcomes.

Figure 1: Theoretical framework



Source: Pitt 1993, Peabody 1996, Musgrove 1997, Sen and Koivusalo 1998.

* Variables estimated in the empirical studies on structural adjustment and health. See section 4.1 for further details and outcomes.

Figure 1. A theoretical framework for interactions between structural adjustment policies and health outcomes (reproduced from Breman & Shelton 2001, p. 8

Efficiency and *equity* are the criteria most frequently used to evaluate health systems (Mills & Ranson 2001, p. 518). These same criteria have been suggested as the implicit reasons for health reform (Cruz-Seco & Masa-Lago 1998; Baeza 1999). Efficiency can be subdivided into :-

- *Macroeconomic Efficiency* – How well Countries administer resources to obtain health outcomes for the constituent population and,
- *Microeconomic Efficiency* – use of existing resources which can be
    - *Allocative* – the most cost effective mix of interventions in terms of health gains produced
    - *Technical* – most economically efficient financing, purchase and delivery of a particular intervention(s)

(Mills & Ranson 2001, p. 518).

Equity can be considered in terms of *Horizontal* and *Vertical* (Donaldson & Gerard 1993, cited in Mills & Ranson 2001, p. 519).

- *Horizontal* equity refers to equal access to and costing of, services to individuals, households or groups with equivalent ability to pay, across populations and between geographical regions.
- *Vertical* equity refers to the adjustment of costs for services across socio-economic groups based on their ability (or inability) to pay.

Areas of Health Sector Reform

Regulation

Common regulation reforms include; liberalising laws restricting private sector actors, incentives for efficiency and equity and updating regulatory structures (Mills & Ranson 2001).

The three-tier system in many Latin American countries leads to duplication and wasted resources (Fieno 2002). Ministries of Health have an 'ill-defined' impression that the public health sector is highly inefficient and that aggressive introduction of privatisation would result in improved efficiency sector wide (Baeza 1999). Quality of service differs significantly across the tiers and, not surprisingly, the poor suffer the most as public health spending is regressive (Lloyd-Sherlock 2003). Segregation has created "incentives for private health insurance firms to shift costs 'by skimming the cream from the top' that is, by insuring only the wealthiest, youngest, and probably healthiest in the population and letting the state care for the rest"(Fieno 2002, p. 140). This commercial, profit-seeking behaviour has been able to occur in the absence of overall sector planning which could have provided effective supervision of relationship between financing agencies and health care providers deriving from both the private and the public sector (Cichon & Gillon 1993). Privatisation has been accompanied by little appropriate assessment of the need for strengthening of state health sector regulatory capacity (Baeza 1999).

A study by the World Health Organisation found health expenditures in high income countries financed primarily by private payments have the highest expenditures without superior outcomes. Furthermore, health systems where there is a comprehensive risk-pooling covering the whole population (either by compulsory insurance or financed from taxation) are the most cost-effective (World Health Organization (WHO) 1999). Such a finding may have direct implications for Latin America where the reform process is driven by the ideology that privatisation and competition within the health insurance market is a good way to improve efficiency and, private sector initiative and flexibility in a competitive environment will assure efficiency gains (Baeza 1999). Abrantes (1999) considers Argentina has best managed the process of reform by; re-educating key opinion makers and professional staff, facilitating changes at pilot hospitals, enacting adequate framework legislation and most importantly establishing significantly persuasive incentives for the reform to last. But Baeza (1999 p. 3) reveals a politico-cultural constraint to the often slow process of health reform in Latin America.

> "Ministries of Finance [MoFs] prioritise fiscal issues over efficiency issues, realizing that modernization of health sector could mean losing fiscal control of the sector. Often, MoFs have some form of control of social security revenues in the non-reformed situation, which they would most probably lose in the event of the reform. All this sets the stages for not supporting the reform due to contradicting fiscal objectives. Two good examples of this are Argentina and Chile where social security revenues are somehow included in the fiscal budget".

Financing

Financing reforms include user fees, community financing, social health insurance and external assistance (Mills & Ranson 2001).

User fees have been one of the most controversial components of health reform (Cruz-Seco & Mesa-Lago 1998; World Bank 1999a; Mills et al 2001). World Bank support for user fees in health provision first appeared in a 1987 Policy Study (World Bank 1987). This policy was softened somewhat by *Investing in Health* (World Bank 1993) which conceded "basic health care is a fundamental right" (p. 57) though countered that with "studies on the effect of user fees are inconclusive and contradictory" (p. 118). More recently, under the heavily indebted poor country (HIPC) initiative, user fee conditionality was excluded from both International Monetary Fund (IMF) and World Bank programs – a further softening that the Jubilee Campaign claimed to have influenced (Jubilee Organization). SAPRIN found, especially in the case of women, user fees for health-care services led to increasing self-medication and home care instead of visiting clinics and hospitals. Other user fee related implications included; reduced hospital stays, increased patients who could not complete the full course of treatment due to unaffordable cost, delays in seeking treatment until illness severe, and an increase in at-home curable disease deaths; the latter leading to public-health hazards such as epidemics of commonly treatable and preventable diseases like; bronchitis, pneumonia and tuberculosis (SAPRIN 2002). User fees have been promoted often with the proviso that they should be waived for the poor or, introduced concurrently with income transfer programs targeted to the poor (World Bank 2000). In Peru the policy is to waiver, but health workers at rural ambulatory clinics are without any means of positively identifying disadvantaged groups (World Bank 1999b). Several countries in the region sought to introduce targeted conditional transfer (TCT) programs as replacement for food and fuel subsidies abolished under structural adjustment and as cost effective way of reducing poverty. Conditionality involves income transfers on the basis of compliance with children's school attendance and/or of pregnant mother's visits to health facilities. Theoretically this would also create financial incentive to reduce child labour and improve maternal and infant welfare (World Bank 2000). Such programs have received mixed assessments. Mexico's *PROGRESA* is seen as the best model while in Ecuador the *Bono de Solidad* has consistently failed to reach the poorest communities (SAPRIN 2002).

Social insurance schemes have high administrative costs, limiting member benefits (Mills & Ranson 2001). The World Health Organisation has estimated that administrative costs of such schemes in Latin America absorb 28% of contributions compared to 5% in Western Europe (WHO 1993). Community financing initiatives based on the BAMKO Initiative (WHO 1987) have come under increasing cost pressures due to factors including increasing demand particularly during economic downturns and increasing drug prices often associated with devaluation and currency exchange fluctuations (McPake, Hanson, & Mills 1992).

The International Labour Organisation concedes that in most developing countries, some kind of pluralistic system of delivery and financing is inevitable. It is simply not possible to provide equal quality health care for all, irrespective of ability to pay (Cichon & Gillion 1993). But in almost all cases in the poorer countries,

additional domestic resources would be insufficient to meet health needs (WHO 1993). External financing must fill the gap. "This might mean attracting more resources from the private sector or charitable foundations, but it also means increasing development assistance to health programmes from OECD governments as part of their commitment to the MDGs" (Lennock & Ehrenpreis 2003, p. 28). By the late 1990s the World Bank had become the major source of external finance for the health sector in the developing world thereby positioning it to exert leverage through conditionality for the implementation of health reform (World Bank 1999a).

Resource Allocation

Reform in resource allocation involves; creation of purchasing agencies, specification of essential packages, introduction of contract agreements and changes to payment systems (Mills & Ranson 2001).

Financing agents whether they be Ministries of Health, social funds or private insurers who traditionally channelled funds from sources (taxation, policy premiums) to providers are now increasingly finding themselves as active purchasers of bundles of services (Mills & Ranson 2001). With the exception of Argentina and Uruguay (who have traditionally had integrated provider-financer systems) most health resource allocations have been of the 'line item budget' mechanism that relies on supply-side economics with little consideration to demand or beneficiary satisfaction (Baeza 1999). Purchasing models attempt to create an 'internal market' by the use of 'quasi-contracts' between financers and providers, in an effort to shift toward a demand-side subsidy for health services within the public sector (World Bank 1999a). Sojo (2001) on reviewing health care management in Latin America concluded:

> In many countries, the legal basis for the [quasi-market] mechanisms introduced is flimsy, pricing plays a strictly theoretical role, and consolidation would require changes in employment practices that would be politically very complex to achieve. Despite everything, the quasi-markets that are in prospect offer a promising route towards the goals of greater efficiency, accountability, responsiveness and choice, without adverse consequences for equity (p. 134)

Gilson (1993; 1998), a consistent critic of the inequity of health reform, argues that resource allocation errors have occurred due to inappropriate over-application of cost-effective analysis (CAE). She claims its use has been extended beyond its natural niche of comparative microeconomic technical efficiency to, inappropriately, allocative and even the macroeconomic sphere of health decision making. Health services were ranked by a measure called the Disability Adjusted Life Year (DALY) calculated using a controversial system of weighting (World Bank 1993). Thus the poor and marginalised were only able to access an 'essential health package' of 10-15 selected public health interventions and cost-efficient ambulatory clinical services, screened to comply with CAE guidelines but, unable to meet many of their health needs (Gilson 1998). Van der Gaag & Barham (1998) reviewed World Bank program countries finding that "The majority of the [poor] population remains marginalized or suffers economic hardship if they seek any health care other than the essential packages available in the public sector" and that "health reform amounted to re-emergence of colonial structures, which encourage an affluent minority sufficiently privileged to have separate arrangements with private care" (p. 206).

Management agreements have often allowed hospital boards greater autonomy (Abrantes 1999) while contractual arrangements are often put in place to privatise services previously provided directly by the Ministry of Health (Preker & Harding 2003). Hospital employees, medical or administrative, traditionally retained on fixed, often low, salaries can suffer from low motivation and productivity, absenteeism and be prone to seeking secondary sources such as co-payments (Mills & Ransom 2001). Reform seeks to address these problems by contracting either on a fee per service basis or by a 'capitation' where a fixed fee per person per year is paid for patients registered with the provider. The underlying assumptions of these payment system changes are that inefficiency gains will outweigh over-servicing (fee per service) or unnecessary referrals (capitation) (Mills & Ransom 2001).

Provision

Provision reform in health services often involves; decentralisation of health service and hospital management, encouraging competition and diversity of ownership, strengthening primary care, an 'evidence based' medicine approach, quality improvement measures and improved accountability to service users and population (Mills & Ranson 2001).

Decentralisation has been a universal theme of health reform even in countries that maintain a strong public role for health provision (Mills 1990). Bossert and co-researchers showed that in Chile and Colombia decentralization can contribute to, or at least maintain, more equitable allocation of health resources among municipalities of different incomes. Colombia illustrates that a population-based formula for national allocations is an effective mechanism for achieving equity of expenditures. Furthermore they also suggest that "more equitable allocation of resources may contribute to more equitable utilization of health services across income groups and between rural and urban areas" (Bossert, Larranaga, Giedion, Arbelaez, & Bowser 2003 html). This conflicts with an earlier paper by Collins & Green (1993) which stated "Decentralization of revenue generation and resource allocation brings with it fundamental difficulties in presenting equity-based policies" (p. 62). They justified this on the grounds that richer communities generate more funds locally and if permitted to keep all or significant elements of this for use locally, then inter-community inequities will spring up. Ironically attempts to compensate for this, through national resource redistribution, lead to disincentives for community finance raising. The Mexico SAPRIN study indicates that decentralization has involved a 'deconcentration of administration', with greater responsibilities but fewer resources, at the local level. Structural adjustment conditionalities, for example budget fiscal restraint requirements, could be more easily met by disposing of costly social services. This often occurred at times of economic crisis leaving the Mexican States with insufficient resources to adequately fulfil the new responsibilities for service delivery at the local level (SAPRIN 2002). Similarly Fieno (2002) believes privatisation in combination with decentralisation exacerbates problems in the Latin American health care sector because of the relative lack of administrative capacity of both nascent private firms and local governments.

Peru was noted by the Pan American Health Organisation (PAHO), as how the "significant increase in the coverage of primary care provided through the Ministry of Health for the poor and vulnerable population" was

under threat through health budget cuts (structural adjustment measures) and warned that any erosion of the primary care network through under-funding would jeopardise the "central argument in favour of the legitimacy of the reform" (PAHO 2001, p. 22). Even if funding is adequate social redistributive reform often remains difficult. Political power in Latin America remains in the hands of an urban elite oligarchy (Larrain 2000) who, as the majority consumers of secondary and tertiary medical care, resist redistribution of health resources to the primary level (Behrman 1996). A even greater obstacle may be the firmly entrenched interests of unions, politicians and insurance corporations (Baeza 1999). Improved accountability to health service consumers and the population is difficult dure to the opaque complexity, diversity and fragmentation of health systems within the region (World Bank 1999a).

Health Investment and Outcomes during Reform

Health Indicators

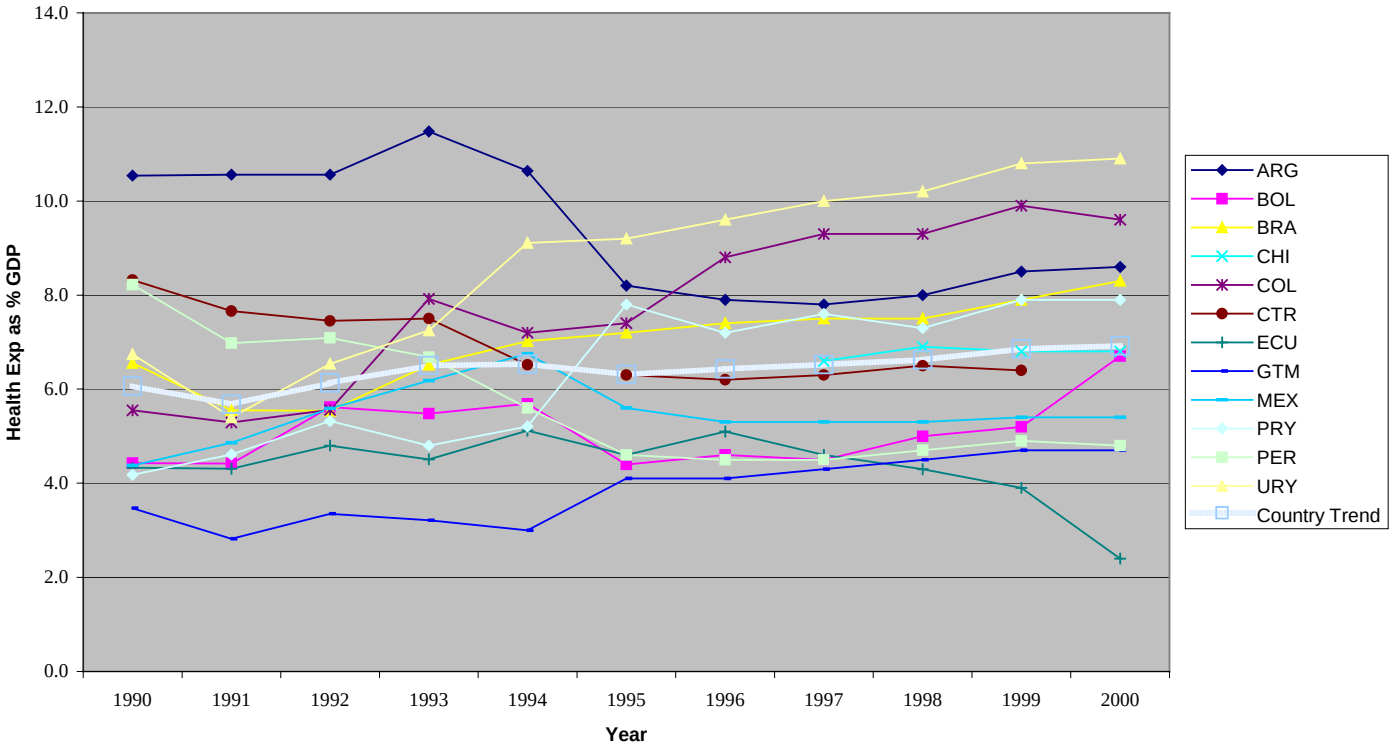
Breman & Shelton in *Structural Adjustment and Health* note that that authors of empirical orientated articles chose health indicators such as health expenditures, infant mortality, child mortality, maternal mortality, life expectancy at birth and malnutrition levels. Indicators such as life expectancy and infant mortality indicate the degree of satisfaction of basic needs rather than the resources expended (Hicks and Streeton 1979). These are preferred over measures of nutrition standards, for example daily calorie intake, which are subject to problems of ethnocentricity (Morris 1979). Health expenditures, whether calculated on a per capita, real total, percentage of gross domestic product (GDP) or percentage of total government revenue basis, are measures of input. Input measures, that is, resources committed to achieving some goal, are no guarantee of the desired outcome (Galtung 1976). Furthermore inputs may measure regrettable necessities, for example, more doctors may mean more disease (Hicks and Streeton 1979). Malnutrition levels, unlike mortality statistics, are subject to variations in definition and measurement methodology.

Notwithstanding these limitations some empirical review can be undertaken. Data from twelve Latin American countries [1] been used to produce the following graphs: Figure 2**,** Health expenditure as a percentage of GDP (see appendix 1); Figure 3, Infant (<1 YOA) Mortality rate per one thousand live births (see appendix 2); Figure 4, Average Life Expectancy in years at birth (see appendix 3) and lastly Figure **5** (see appendix 4) which shows GDP per capita in constant 1995 $US for the same twelve countries. This has been included as a barometer of affordability of out of pocket health expenses. [2]

[1] World Bank World Development Indicators CD ROM 2003 was downloaded for the RMIT course HUSO 2080 *Assessing Progress in Developing Countries* web page blackboard during 2004, Chile was not included. Chile's figures were obtained from the World Bank's online data. Various WHO online databases did not yield any additional information. WDI and WHO online data on malnutrition levels and child mortality were similarly either unavailable or incomplete. Health expenditure as a percentage of GDP where available was only for 1990-2000 whereas most other statistics spanned 1980-2001. For Chile, the regional country with the longest history of health reform, the readily available data was less complete than average for the Latin American group.

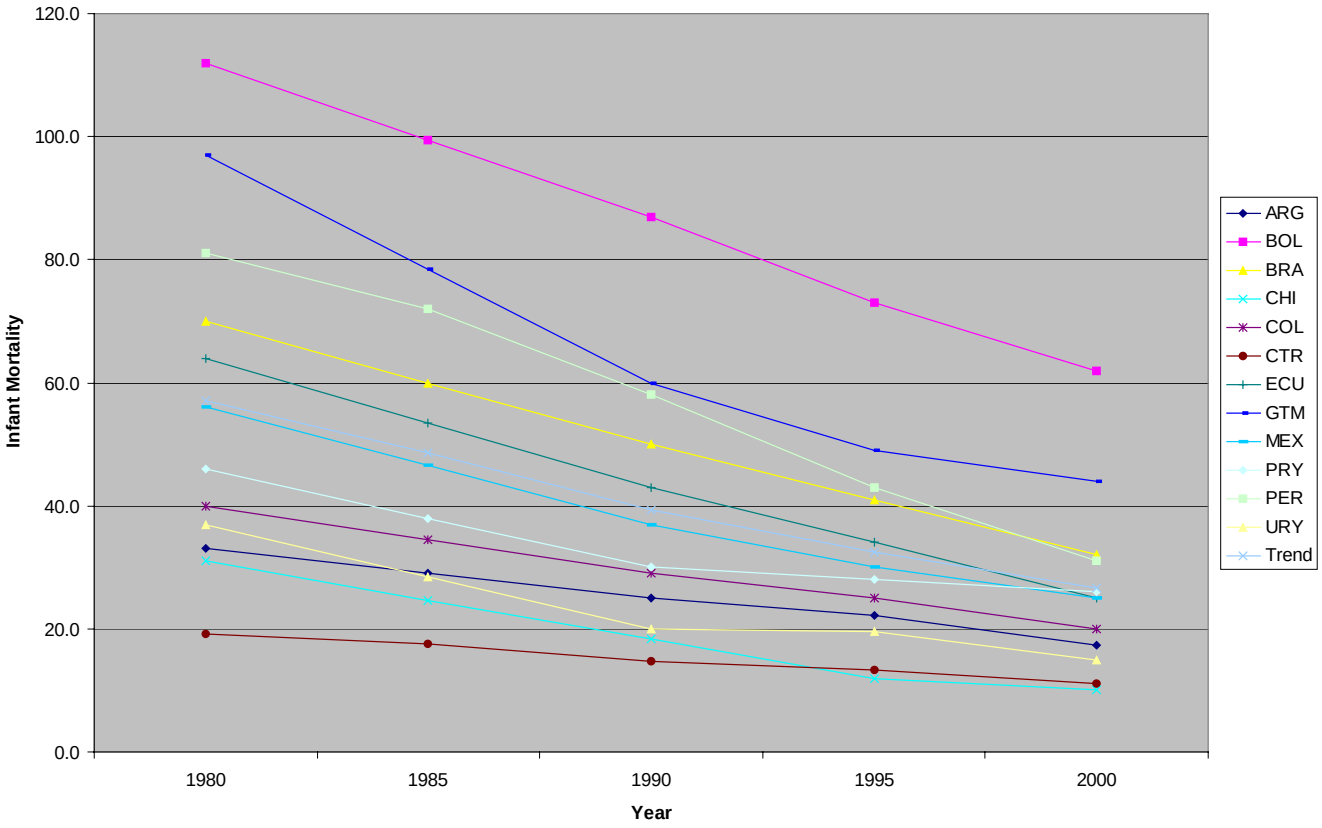
[2] A search was made of the World Bank (http://www.worldbank.org/) and International Monetary Fund (http://www.imf.org/) websites for statistics on structural adjustment loans and health sector reform. While data was found on individual programs in specific countries, sum totals of amounts of Structural Adjustment Loans either in health or across sectors was not found. This prevented matching individual country or region outcomes to loan amounts received.

Figure 2 Health Expenditure as a yearly percentage of Gross Domestic Product (GDP) - Twelve Latin American Countries 1990-2000



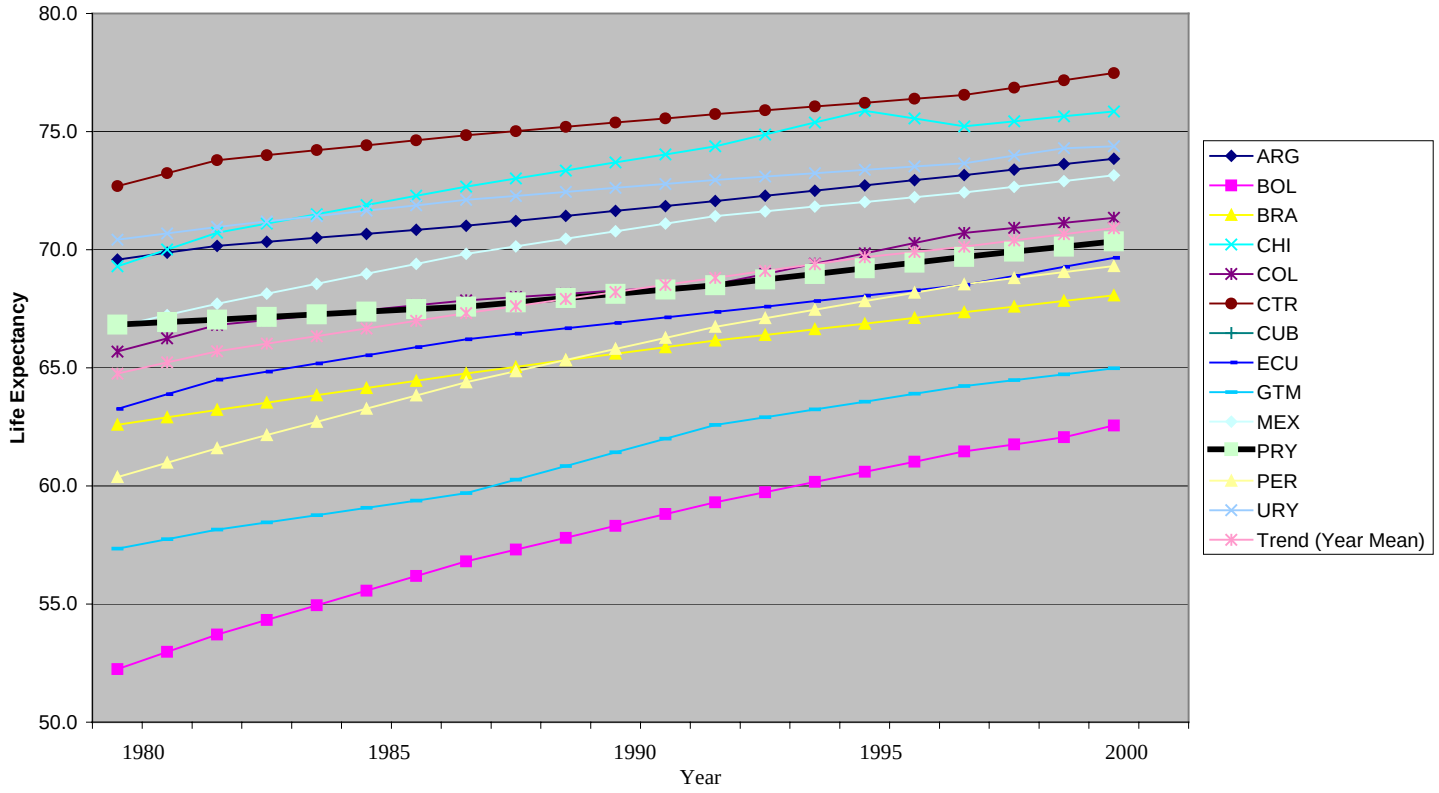
Source: Appendix 1 Health Expenditure as a yearly percentage of Gross Domestic Product (GDP) - Twelve Latin American Countries 1990-2000

Figure 3 Infant (<1 YOA) Mortality per 1,000 Live Births - Twelve Latin American Countries 1980-2000



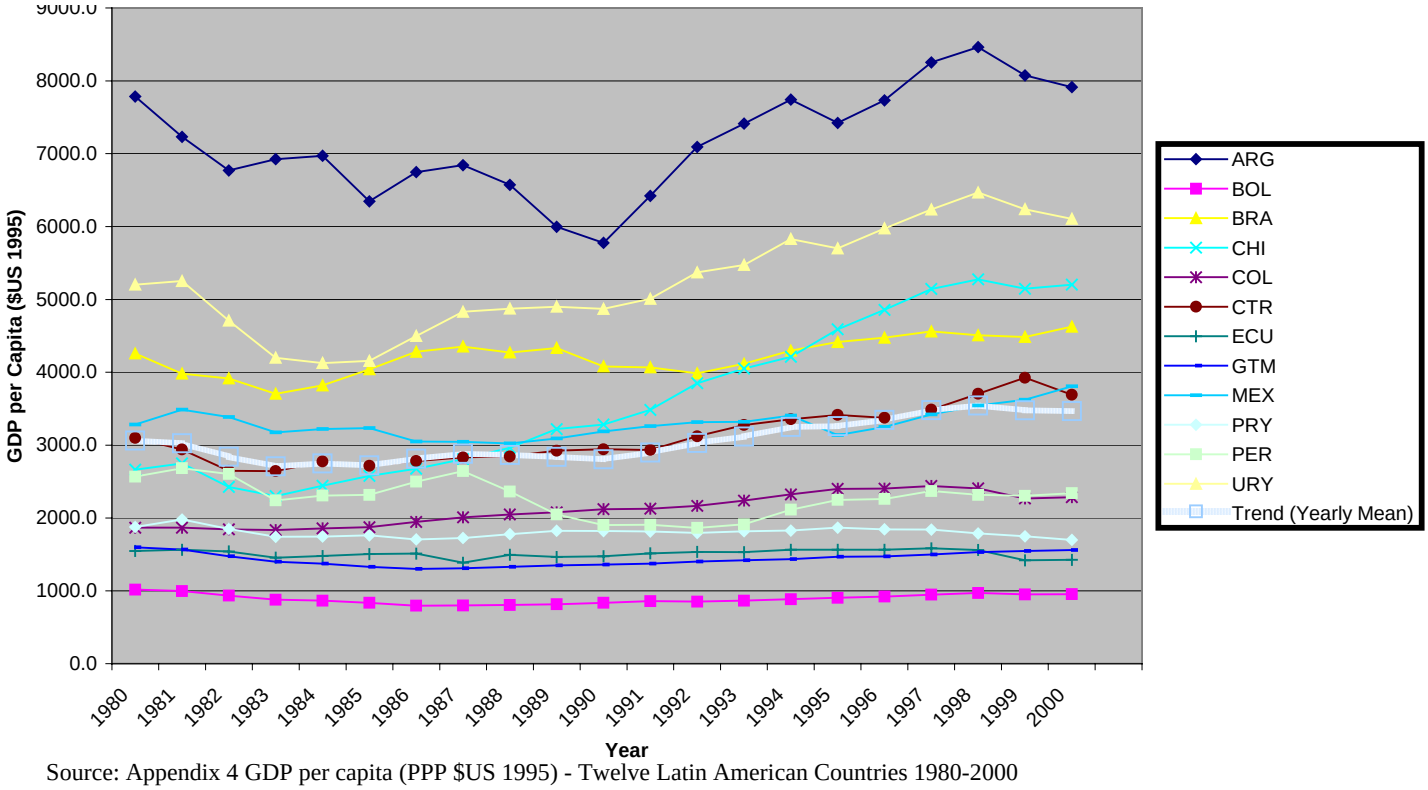
Source: Appendix 2 Infant (<1 YOA) Mortality per 1,000 Live Births - Twelve Latin American Countries 1980-2000

Figure 4 Average Life Expectancy (Years) at Birth - Twelve Latin American Countries 1980-2000



Source: Appendix 3 Average Life Expectancy (Years) at Birth - Twelve Latin American Countries 1980-2000

Figure 5 GDP per capita (PPP $US 1995) - Twelve Latin American Countries 1980-2000



Source: Appendix 4 GDP per capita (PPP $US 1995) - Twelve Latin American Countries 1980-2000

Discussion

Infant mortality (Figure 2 ,data appendix 1) and life expectancy (Figure 3, data appendix 2) data clearly shows that, in terms of basic needs met, development has occurred. All countries show continuous improvement over the twenty year period 1980-2000. Poorer countries, such as Bolivia and Guatemala beginning from a lower base in 1980, show the greatest improvement while still finishing significantly worse than the richer southern cone countries such as Argentina (pre 2001 economic crash) and Uruguay. Improvements in these two indicators in the 1990s occurred in all countries despite a considerable fall in expenditure as a percentage of GDP in Argentina and Peru, rises in Uruguay and Paraguay and significant fluctuations in others. The ten year trend shows a modest increase in health expenditure as a percentage of GDP from 5.84% in 1980 to 6.92 in year 2000; a rise of just 1.08 percentage points.

GDP per capita however shows that, in real terms (parity adjusted to $US 1995), there has been little increase in average wealth in two decades. Considerable evidence points to the Latin American region, historically having the most inequitable distribution of income, becoming increasingly more so during the period 1980-2000 (World Bank 2003; 2004). Of countries which experienced actual GDP growth in the 1990s, inequity of income distribution increased sufficiently in some, such as Uruguay, to offset any benefits from growth flowing on to the poor (World Bank, 2003). Following on from this the poor are unlikely to be any better off, in terms of income, at the end of the millennium than they were twenty years earlier. This raises concerns over the introduction of user fees, co-payments and out of pocket expenses.

Conclusion

Generalisations about a region as geographically large, politically and culturally diverse as Latin America are problematic in any field of study. Complexity, diversity and range of actors within the health sector pose additional difficulties of analysis. Jayarajah, Branson and Sen (1996) found that health expenditures and health outcomes had improved in Latin American countries amongst the 53 adjusting countries world wide they studied, whereas Breman and Shelton (2001) found a mixture of positive and negative outcomes for the region in their literature review.

Macroeconomic reforms have been unevenly and incompletely implemented across the region. There is considerable resistance to reform from within the Ministries of Finance and Health and amongst established actors such as social insurance funds despite evidence of considerable allocative inefficiency and high administrative costs. In many countries it is still to early to tell or too soon for literature to appear, assessing the impact of health reform (Baeza 1999). Where the history of reform is longest, in Chile, there has been inadequate regulation and supervision by government to prevent decreased vertical equity of health services. Argentina has approached reform using a more strategic, sector wide framework including incentive aimed at entrenching change. The country's more decentralised hospital administration system may also have helped (Abrantes 1999). Elsewhere in the region studies conflict over the benefits or drawbacks of health decentralisation.

A World Bank (1999a) review of Health Nutrition and Population (HNP) projects for the financial year 1997-8 found that 79% had 'satisfactory' outcomes according to the Bank's assessment. Areas of 'success' were "in expanding health systems, providing inputs, improving treatment within the medical care system and promoting dialogue on … financing … and AIDS/HIV" (p. 63) that is, mostly microeconomic outcomes involving allocative and technical efficiency. Areas where the Bank considered it had failed to be effective were "in improving service quality, efficiency, institutional development, monitoring and evaluation, and promoting behavioral change impacting on health" (p. 63), that is mostly macroeconomic efficiency.

Commentators on Latin American health reform (Arroya 2000; Tavares 1999) tend to be overwhelmingly critical of health reform if their commentary is non-empirical, but more neutral towards reform if their interpretation is theoretical or empirically based (Breman & Shelton 2001). Empirical review presented in this essay looked at infant mortality and life expectancy as health indicators for a sample group of twelve countries drawn from North, Central and South America over the period 1980-2001. With the exception of early reformer Chile most other countries began implementing health reforms in the late 1980 to early 1990s. Infant mortality and life expectancy improvements occurred in all countries sampled irrespective of whether the country's health expenditure as a percentage of GDP rose, fell or fluctuated during the 1990s. This would appear to refute claims that health reform has had a direct detrimental impact on basic health outcomes. The difficulty of estimating the case of the counter-factual poses a dilemma assessing whether outcomes would have been different without reform measures. It is conceivable that reform may have had a positive or very little real effect. Mosley & Jolly (1987) believe health status in a country is constrained far more by the nature of social institutions, including health services, than by lack of financial resources. Some studies (Wilkinson, 1996; Doyal, 1981) have failed to show a link between increases in medical services and expenditures, and increases in population health. Similarly, decreases in medical services may not be large contributors to declining health levels. Additionally there is a tendency for reform policies to be driven by ideology rather than empirical evidence (Mills & Ranson 2001).

Despite the waves of reform, especially in the 1990s, public health spending in Latin America has been and continues to be regressive (Lloyd-Sherlock 2000). The real income of many Latin Americans may have declined in the last two decades of the 20th century; a time in which fuel and food subsidies were abolished. Income transfers, intended to compensate the poor have often been poorly targeted. These factors suggest that the issue of user fees and co-payments particularly on lower income groups needs to be re-examined. Can they be regarded as a legitimate revenue-raising mechanism? How far do they act to restrain excessive utilisation and cost increases, in situations of third-party financing, in the Latin American region? Most importantly the question of vertical equity of access to services, outside CAE-screened basic packages, needs to be investigated, particularly as, in the context of low-income developing countries, user fees and co-payments have proven to be a weak financial and allocative mechanism (Cichon & Gillon 1993).

Appendix 1 Health Expenditure as a yearly percentage of Gross Domestic Product (GDP) - Twelve Latin American Countries 1990-2000

Data compiled from : World Bank 2003, Human Development Indicators CD, World Bank Washington USA, downloaded from RMIT APDC Website Blackboard 10/05/2004 and World Bank Group WDI Online, http://devdata.worldbank.org.mate.lib.unimelb.edu.au/dataonline/ 23/10/2004

Year	ARG	BOL	BRA	CHI	COL	CTR	ECU	GTM	MEX	PRY	PER	URY	Country Trend
1990	10.5	4.4	6.6		5.6	8.3	4.3	3.5	4.4	4.2	8.2	6.7	6.1
1991	10.6	4.4	5.6		5.3	7.7	4.3	2.8	4.9	4.6	7.0	5.4	5.7
1992	10.6	5.6	5.5		5.6	7.5	4.8	3.4	5.6	5.3	7.1	6.5	6.1
1993	11.5	5.5	6.5		7.9	7.5	4.5	3.2	6.2	4.8	6.7	7.3	6.5
1994	10.6	5.7	7.0		7.2	6.5	5.1	3.0	6.8	5.2	5.6	9.1	6.5
1995	8.2	4.4	7.2		7.4	6.3	4.6	4.1	5.6	7.8	4.6	9.2	6.3
1996	7.9	4.6	7.4		8.8	6.2	5.1	4.1	5.3	7.2	4.5	9.6	6.4
1997	7.8	4.5	7.5	6.6	9.3	6.3	4.6	4.3	5.3	7.6	4.5	10.0	6.5
1998	8.0	5.0	7.5	6.9	9.3	6.5	4.3	4.5	5.3	7.3	4.7	10.2	6.6
1999	8.5	5.2	7.9	6.8	9.9	6.4	3.9	4.7	5.4	7.9	4.9	10.8	6.9
2000	8.6	6.7	8.3	6.8	9.6		2.4	4.7	5.4	7.9	4.8	10.9	6.9

LEGEND

ARG (Argentina) BOL (Bolivia) BRA (Brazil) CHI (Chile) COL (Colombia) CTR (Costa Rica) ECU (Ecuador) GTM (Guatemala) MEX (Mexico) PRY (Paraguay) PER (Peru) URY (Uruguay)

Appendix 2 Infant (<1 YOA) Mortality per 1,000 Live Births - Twelve Latin American Countries 1980-2000

Data compiled from : World Bank 2003, Human Development Indicators CD, World Bank Washington USA, downloaded from RMIT APDC Website Blackboard 10/05/2004 and World Bank Group WDI Online, http://devdata.worldbank.org.mate.lib.unimelb.edu.au/dataonline/ 23/10/2004

Year	ARG	BOL	BRA	CHI	COL	CTR	ECU	GTM	MEX	PRY	PER	URY	Trend
1980	33.0	112.0	70.0	31.0	40.0	19.1	64.0	97.0	56.0	46.0	81.0	37.0	57.2
1985	29.0	99.5	60.0	*24.7*	34.5	17.6	53.5	78.5	46.5	38.0	72.0	28.5	48.5
1990	25.0	87.0	50.0	*18.3*	29.0	14.8	43.0	60.0	37.0	30.0	58.0	20.0	39.3
1995	22.2	73.0	41.0	12.0	25.0	13.3	34.0	49.0	30.0	28.0	43.0	19.6	32.5
2000	17.4	62.0	32.0	10.0	20.0	11.1	25.0	44.0	25.0	26.0	31.0	15.0	26.5
Country Mean	25.3	86.7	50.6	19.2	29.7	15.2	43.9	65.7	38.9	33.6	57.0	24.0	40.8

Figures in Italics have been interpolated assuming smooth transitions between known data points

Appendix 3 Average Life Expectancy (Years) at Birth - Twelve Latin American Countries 1980-2000

Data compiled from : World Bank 2003, Human Development Indicators CD, World Bank Washington USA, downloaded from RMIT APDC Website Blackboard 10/05/2004 and World Bank Group WDI Online, http://devdata.worldbank.org.mate.lib.unimelb.edu.au/dataonline/ 23/10/2004

Year	ARG	BOL	BRA	CHI	COL	CTR	ECU	GTM	MEX	PRY	PER	URY	Trend (Year Mean)
1980	69.6	52.2	62.6	69.3	65.7	72.7	63.3	57.4	66.8	66.8	60.4	70.4	64.8
1981	*69.9*	*53.0*	*62.9*	*70.0*	*66.3*	*73.2*	*63.9*	*57.7*	*67.2*	*66.9*	*61.0*	*70.7*	*65.2*
1982	70.2	53.7	63.2	70.7	66.8	73.8	64.5	58.1	67.7	67.0	61.6	71.0	65.7
1983	*70.3*	*54.3*	*63.5*	*71.1*	*67.0*	*74.0*	*64.8*	*58.5*	*68.1*	*67.2*	*62.2*	*71.2*	*66.0*
1984	*70.5*	*54.9*	*63.8*	*71.5*	*67.2*	*74.2*	*65.2*	*58.8*	*68.6*	*67.3*	*62.7*	*71.4*	*66.3*
1985	70.7	55.6	64.1	71.9	67.4	74.4	65.5	59.1	69.0	67.4	63.3	71.7	66.7
1986	*70.8*	*56.2*	*64.5*	*72.3*	*67.7*	*74.6*	*65.9*	*59.4*	*69.4*	*67.5*	*63.8*	*71.9*	*67.0*
1987	71.0	56.8	64.8	72.7	67.9	74.8	66.2	59.7	69.8	67.6	64.4	72.1	67.3
1988	*71.2*	*57.3*	*65.0*	*73.0*	*68.0*	*75.0*	*66.4*	*60.3*	*70.1*	*67.8*	*64.9*	*72.3*	*67.6*
1989	*71.4*	*57.8*	*65.3*	*73.4*	*68.1*	*75.2*	*66.7*	*60.8*	*70.5*	*68.0*	*65.3*	*72.4*	*67.9*
1990	71.6	58.3	65.6	73.7	68.3	75.4	66.9	61.4	70.8	68.1	65.8	72.6	68.2
1991	*71.9*	*58.8*	*65.9*	*74.0*	*68.4*	*75.6*	*67.1*	*62.0*	*71.1*	*68.3*	*66.3*	*72.8*	*68.5*
1992	72.1	59.3	66.2	74.4	68.5	75.7	67.4	62.6	71.4	68.5	66.7	73.0	68.8
1993	*72.3*	*59.7*	*66.4*	*74.9*	*69.0*	*75.9*	*67.6*	*62.9*	*71.6*	*68.7*	*67.1*	*73.1*	*69.1*
1994	*72.5*	*60.2*	*66.6*	*75.4*	*69.4*	*76.1*	*67.8*	*63.2*	*71.8*	*69.0*	*67.5*	*73.2*	*69.4*
1995	72.7	60.6	66.9	75.9	69.8	76.2	68.1	63.6	72.0	69.2	67.8	73.4	69.7
1996	*72.9*	*61.0*	*67.1*	*75.6*	*70.3*	*76.4*	*68.3*	*63.9*	*72.2*	*69.5*	*68.2*	73.5	*69.9*
1997	73.2	61.5	67.4	75.2	70.7	76.6	68.5	64.2	72.4	69.7	68.5	73.7	70.1
1998	73.4	*61.8*	*67.6*	*75.4*	*70.9*	*76.9*	*68.9*	*64.5*	*72.7*	*69.9*	*68.8*	*74.0*	*70.4*
1999	*73.6*	62.1	*67.8*	*75.6*	*71.1*	*77.2*	*69.3*	*64.7*	*72.9*	*70.1*	*69.1*	74.3	*70.7*
2000	73.9	62.6	68.1	75.9	71.4	77.5	69.7	65.0	73.1	70.4	69.3	74.4	70.9
Country Mean	71.7	58.0	65.5	73.4	68.6	75.3	66.8	61.3	70.4	68.3	65.5	72.5	68.1

Figures in Italics have been interpolated assuming smooth transitions between known data points

Appendix 4 GDP per capita (PPP $US 1995) - Twelve Latin American Countries 1980-2000

Data compiled from : World Bank 2003, Human Development Indicators CD, World Bank Washington USA, downloaded from RMIT APDC Website Blackboard 10/05/2004 and World Bank Group WDI Online, http://devdata.worldbank.org.mate.lib.unimelb.edu.au/dataonline/ 23/10/2004

Year	ARG	BOL	BRA	CHI	COL	CTR	ECU	GTM	MEX	PRY	PER	URY	Trend (Yearly Mean)
1980	7785.2	1016.1	4256.6	2665.0	1867.7	3097.3	1546.7	1597.6	3282.1	1878.3	2568.6	5204.6	3063.8
1981	7231.9	997.4	3979.7	2749.4	1867.6	2939.1	1564.0	1568.1	3486.3	1978.1	2685.2	5253.3	3025.0
1982	6769.8	935.1	3916.6	2428.1	1844.7	2647.0	1540.1	1475.0	3386.5	1850.0	2604.8	4710.2	2842.3
1983	6926.1	880.1	3703.6	2300.2	1834.6	2645.5	1457.2	1401.2	3174.0	1743.3	2243.6	4199.2	2709.1
1984	6972.8	866.3	3819.2	2444.9	1856.9	2776.1	1479.0	1372.9	3219.3	1745.2	2307.0	4124.8	2748.7
1985	6347.4	835.3	4041.2	2577.4	1875.1	2715.6	1503.9	1330.4	3234.8	1760.3	2319.9	4157.5	2724.9
1986	6746.0	797.4	4280.5	2677.8	1944.6	2783.0	1511.7	1299.2	3050.7	1706.5	2498.2	4499.8	2816.3
1987	6841.5	800.0	4352.5	2807.7	2008.5	2831.6	1386.6	1312.0	3046.0	1725.4	2642.9	4832.3	2882.3
1988	6572.1	805.5	4270.4	2962.9	2049.1	2845.7	1495.9	1329.9	3024.3	1778.2	2364.9	4875.1	2864.5
1989	5996.2	817.4	4334.4	3220.6	2077.9	2922.9	1464.9	1349.2	3091.3	1823.2	2047.4	4901.6	2837.3
1990	5775.8	835.8	4079.1	3282.6	2119.2	2944.6	1475.2	1358.5	3187.2	1822.4	1904.6	4870.3	2804.6
1991	6422.1	858.9	4065.9	3485.5	2127.9	2933.4	1514.7	1372.1	3260.4	1812.9	1908.0	5009.9	2897.6
1992	7094.1	852.3	3983.0	3848.4	2168.0	3123.1	1534.1	1401.4	3317.0	1794.1	1862.6	5369.6	3029.0
1993	7413.7	867.5	4116.0	4049.6	2240.8	3276.6	1531.1	1418.6	3320.8	1818.8	1912.7	5472.4	3119.9
1994	7742.1	886.4	4296.4	4212.5	2325.8	3356.2	1562.8	1437.4	3405.8	1827.4	2114.8	5827.8	3249.6
1995	7421.5	905.7	4415.4	4589.3	2399.1	3415.7	1565.4	1469.1	3139.7	1867.5	2250.1	5701.7	3261.7
1996	7731.2	923.6	4473.7	4858.3	2403.1	3374.7	1563.9	1473.2	3250.9	1842.7	2262.4	5975.2	3344.4
1997	8252.4	947.0	4560.7	5144.8	2438.6	3489.0	1584.4	1497.4	3421.4	1842.0	2371.8	6232.6	3481.8
1998	8462.6	971.7	4506.8	5274.8	2406.4	3703.3	1559.8	1531.1	3543.9	1787.2	2319.6	6467.9	3544.6
1999	8074.4	953.3	4486.0	5146.4	2268.0	3924.3	1418.8	1548.5	3621.4	1749.0	2305.0	6238.3	3477.8
2000	7912.9	953.5	4626.3	5204.5	2284.9	3692.1	1425.1	1562.2	3806.3	1700.2	2342.7	6104.2	3467.9
Country Mean	7166.3	890.8	4217.3	3615.7	2114.7	3116.0	1508.8	1433.6	3298.6	1802.5	2277.9	5239.4	3063.8

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