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From Plan to Market in the Health Sector? China's Experience

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1. Introduction

Countries worldwide confront the challenge of defining and achieving appropriate roles of the government and market forces in the health sector. Although extensive theoretical, empirical and policy-oriented scholarship analyzes this issue for established market economies, much work remains to be done to understand the institutional challenges of developing countries and countries transitioning from central planning to market-based economies.

China—as both a developing and transitional economy—represents an important case. China's economic reforms since 1980 spurred unprecedented economic growth and lifted millions out of poverty. To what extent these achievements can be sustained and deepened will not only impact the lives of one-fifth of mankind, but will also affect the global course of such health threats as tuberculosis and HIV/AIDS and the world's ability to achieve the Millennium Development Goals.

How has the health of China's population, as well as the performance of its health system, changed during the reform era? International comparison provides a useful lens for evaluating China's experience. The World Health Organization (WHO) applied one such set of metrics to a cross-section of countries in the World Health Report 2000. China's health system performance ranked 144 out of 191 countries. Despite a relatively high ranking for level of population health (61), China's system was deemed weak in the distribution of health and responsiveness, as well as particularly unfair in distributing financial burdens of health coverage and illness expense. Although many might quibble with the WHO's performance metrics, few would disagree that China's health sector faces tremendous challenges.

This paper examines the factors underlying China's uneven health sector performance. The first section examines how several key health status indicators have changed over the past 10 to 20 years, compared to other countries and relative to income per capita. China began the reform era as an international outlier, having achieved high population health status for its relatively low per capita income level. One might have hoped that China's above-average economic growth over the past two decades would have reinforced China's previously above-average health indicators. Instead, compared to unprecedented economic growth, health status measures have improved more slowly, or even stagnated at the aggregate level, with growing population disparities. By 2000, life expectancy, infant mortality, and under-five mortality rates were all about average for countries of similar per capita income. Section 3 considers several alternative explanations for this "regression to the mean," including the stresses of systemic transformation, reverse causality from health to subsequent growth, and changes in health care financing and delivery.

Depending on which measures of health and health sector performance one chooses to analyze, China's performance in the health sector is neither significantly better nor spectacularly worse than its Asian neighbors. Some developing Asian countries, such as Indonesia, experienced more balanced improvements in health along with GDP, but with similar overall results.¹ In developing Asia, as elsewhere in the world, systems of health care financing and delivery are closely shaped by historical and cultural context; although China might benefit from specific elements of many systems and from the "advantage of backwardness" (Gerschenkron 1962), no single health system model offers a panacea. For example, South Korea and Taiwan have established National Health Insurance (in 1989 and 1995, respectively), assuring their populations universal access to health care with national risk pooling. Yet neither country faces

¹ For example, Indonesia and China both dramatically decreased under-five mortality rates from similarly high levels in the mid-1960s, but with divergent paths. Indonesia achieved steady falls in under-five mortality rates along with increases in per capita income. By contrast, China's under-five mortality rate fell rapidly during a period of meager economic growth, to a level by 1980 that Indonesia did not reach until 1995; but China's under-five mortality rate has virtually stagnated since then, while per capita income grew dramatically (Wagstaff 2004).

China's challenges in reaching a large rural population. From among its neighbors, China has borrowed probably most significantly from Singapore, implementing a system of individual Medical Savings Accounts that, ironically, few health policy experts would have recommended as appropriate (see Yip and Hsiao 1997).

In section 4, we draw on standard public finance and health economics theory, as well as the more recent incomplete-contracting theory of property rights, to analyze the comparative advantages of government and market for financing and delivery of health services, particularly in developing and transitional economies. We describe and analyze the transformation of China's health sector against this theoretical background.

The first three sections feature positive economic analysis; the final section summarizes normative judgments and policy recommendations for China's health system reforms.

2. China's Health System Performance in International Comparative Perspective

To analyze how China's population health and health system have evolved during transition from central planning to a market-based economy, we examine how China's health system indicators have changed, compared to other countries and relative to income per capita. We use analogs of the famous "Preston curve" exploring the relationship between life expectancy and Gross Domestic Product (GDP) (Preston 1975; see Deaton 2004 for the millennium version). Figures 1-5 present data on health, health care and economic development for over 100 economies, using the World Bank's World Development Indicators (World Bank 2000). The top panel (panel a) of each figure shows China's position early in the reform era (1980 or 1990, depending on the figure); the lower panel (panel b) shows data for 2000 or latest available year. The vertical axis plots the health system indicator of interest, while the horizontal axis depicts GDP per capita.²

² Thus, an upward-sloping line suggests that the indicator (e.g. life expectancy or health expenditure) is higher in

This data shows that China began the reform era as an international outlier, achieving high population health status for its relatively low per capita income. Indeed, China's dramatic improvement in population health between the 1950s and 1970s is well known (Jamison 1984; Hsiao 1995). Over the reform era, economic growth outstripped improvement in health status indicators. Currently, health status indicators are about average for China's level of per capita GDP. This "regression to the mean" is evident in the infant mortality rate (Figure 1), the under-5 mortality rate (Figure 2), and life expectancy (Figure 3; also see appendix Figure 1). What factors explain China's experience? We explore several alternative explanations.

Transition from Plan to Market and Urbanization

Countries transitioning from central planning to market-based economies have experienced unexpectedly high social costs of transition. Literacy rates and school enrollments have fallen, poverty and inequality have increased, and health has suffered (European Bank for Reconstruction and Development 1999; Campos and Coricelli 2002; Svejnar 2002). Noting the dramatic rise in male mortality in Russia during the early 1990s, the World Bank poses the question, "is transition a killer?" (World Development Report 1996, *From Plan to Market*, p.128) Since China and Russia are the two largest transitional economies, their experiences with health transition have some similarities (Liu, Rao and Fei 1998). Perhaps the systemic transformation itself has contributed to China's slowing in improvement of health and health system performance.

Although this explanation has some plausibility (and we return to market-driven health system explanatory factors below), we discount it as a leading hypothesis. The vast majority of transitional economies—including all central and eastern European countries and republics of

countries with higher per capita income. A downward-sloping line, such as for the infant mortality rate, shows the opposite: higher levels of income per capita are correlated with lower infant mortality. The appendix presents seven additional figures that compare China to other transitional economies and OECD countries, using data from the WHO (2002) and Chinese Ministry of Health (1998, 2001).

the former Soviet Union—suffered *transformational recessions* (Kornai 1994). China, in contrast, has grown continually throughout the past quarter century. Moreover, if systemic transformation—and its accompanying stress from unemployment, crime and drinking—played as important a role in shaping health in China as in Russia, the larger adverse health impact of transition should have been in urban areas, which are more similar than are China’s vast rural areas. Yet the largest stagnation in health improvement has been in China’s rural, rather than urban, areas (Liu, Hsiao and Eggleston 1999).

These facts suggest that mechanisms other than the direct stresses of transition are at work in China. The disparity between health status in China’s urban and rural areas also suggests that the process of urbanization, and its accompanying lifestyle changes contributing to congestion, poor public health, sedentary lifestyles and growing obesity (e.g., Popkin 1999), can only partly explain the overall pattern of China’s health changes during the reform era.

Earlier Health Investments Spurred Economic Growth

Health, in addition to its intrinsic value, contributes fundamentally to an individual’s and a society’s ability to raise standards of living. Numerous empirical studies document how a healthy population enhances economic growth (e.g., Barro and Sala-i-Martin 1995; Strauss and Thomas 1998; Bloom, Canning, and Sevilla 2001).³ The direction of causality from health to growth can help to explain China’s experience. We are not the first to argue that higher-than-average investment in basic health and education in the 1950s through the 1970s directly and

³ For example, Barro and Sala-i-Martin (1995) estimate that, controlling for standard macroeconomic determinants of growth, life expectancy remains economically and statistically significant in explaining subsequent GDP growth: “a one-standard-deviation increase in life expectancy (which is equivalent to 13 years in 1965-75) is estimated to raise the growth rate by 1.4 percentage points per year” (p. 432). As emphasized in a recent WHO report on health and economic development, “a typical statistical estimate suggests that each 10 percent improvement in life expectancy at birth is associated with a rise in economic growth of at least 0.3 to 0.4 percentage points per year, holding other growth factors constant,....which cumulates to enormous effects over time” (WHO Commission on Macroeconomics and Health 2001, p.24).

significantly contributed to subsequent high economic growth (see Drèze and Sen 2002 and Deaton 2004).

Nevertheless, the health-growth nexus does not completely explain China's experience. What factors prevented translating a doubling of per capita income into a proportional improvement in population health? The following sections examine changes in China's health system during the period of rapid economic growth and how benign neglect (Hsiao 1995; Hsiao and Liu 1996) contributed to uneven health sector performance.

3. From Plan to Market in the Health Sector?

In this section, we draw on standard public finance and health economics theory, as well as the more recent incomplete-contracting theory of property rights, to analyze the comparative advantages of government and market for financing and delivery of health services in a developing, transitional economy. We describe and analyze the transformation of China's health sector against this theoretical background.

Medical care is only one factor shaping population health; genetic and environmental influences and lifestyle choices (e.g., hygiene, substance abuse, exercise) are often more important determinants of health (Fuchs 1974). Nevertheless, access to health care can be critical for maintaining health and extending life. Moreover, society may value a well-functioning health system for reasons beyond the central objective of contributing to better health. Social solidarity, social stability, and poverty alleviation all benefit from a well-functioning health care system, as does the economy and its expanding service sector.

Salient features of health sectors in developing and transitional economies include (1) limited institutional and administrative capacity; (2) non-universal coverage (especially in developing economies); and (3) public ownership of most health care delivery organizations. Numerous traditional healers and individual providers may be self-employed; but more "high-

tech” clinics and virtually all hospitals are usually government-owned. Lack of universal coverage frequently means that governments try to assure access through subsidized direct delivery, with administrative pricing of services as a mechanism for coverage. During reforms, most such economies are experimenting with privatization, competition and incentives in their health sectors, as in other sectors of their economies (Kornai and Eggleston 2001).

Much of the theory on government role in the health sector applies just as readily, if not more acutely, to the developing and transitional economy context as to industrialized, established-market economies. Public goods and externalities justify some government intervention. Canonical examples include control of communicable diseases like severe acute respiratory syndrome (SARS) and promotion of health activities with positive externalities, like immunizations. The developing country context reinforces other traditional arguments for a government role as well. For example, imperfect and asymmetric information (about how diseases are spread, the importance of sanitation and nutrition, the addictive effects of smoking, the quality of health care and pharmaceuticals, etc.) is more acute and problematic for a semi-literate population than for a well-educated populace. Furthermore, the lack of market institutions in many developing and transition economies, at least in the initial stages, seems to call for government to step in to fill the gap with market-promoting institutional development, if not direct command and control.

Yet governments in developing and transitional economies frequently have limited capacity to undertake these roles, both in terms of tax revenues and managerial expertise. Institutional weaknesses exacerbate government failures as well as market failures. Limited administrative capacity suggests that complex, data-intensive payment policies and contracting mechanisms are infeasible or not cost-effective. Arguably these economies need to start simple (Eggleston, Posner and Zeckhauser 2000) and evolve toward “international best practice” using appropriate “transitional institutions,” as China has in other aspects of its reforms (Qian 2002).

Health Spending, Financing and Insurance

Figure 4 illustrates how China's total health expenditures as a percentage of GDP have evolved over the past decade, in international comparative perspective. Between 1990 and 2000, China's health expenditures and GDP per capita both grew rapidly, with health expenditure growth outstripping growth in per capita income. Thus, although China pre-reform was a relatively low spender for its income level, by 2000 China's health spending (at 5.3% of GDP; Zhao et al. 2002) was about average for its per capita income. China spends more of its national income on health than Indonesia or Sri Lanka, about average for transitional economies (lower than accession countries joining the EU, but higher than most of the republics of the former USSR), and less than high-income OECD countries (see appendix Figure 2). In sum, China has devoted an increasing proportion of its national income to health and health care, and health spending growth does not seem unsustainable in light of China's income level and rate of economic growth.

More dramatic and worrying has been the change in *structure* of China's health spending. Most countries increase the proportion of public spending as they develop (Figure 5). In China, by contrast, the share of health spending paid by public sources—government financing and social insurance—has declined significantly, with an ever-larger burden falling directly on consumers as out-of-pocket financing. Figure 5 shows that public health expenditure as a percentage of GDP fell slightly between 1990 and 2000, while overall health spending increased at double-digit rates. China's reliance on out-of-pocket household payments exceeds even that of South Korea and Mexico, which finance 51% and 55% of total health expenditures, respectively, through patient out-of-pocket payments (OECD Health Data 2002; figures are for 1995). Among transitional economies, China is also an outlier (appendix Figure 3); very few (e.g., Georgia) finance more of their health spending through private sources. If under-the-table payments, which are pervasive in China and many other transitional economies, could be

included in these financing statistics, the proportion of spending coming from private sources would be even higher. This shift toward private financing, particularly out-of-pocket spending, leaves Chinese exposed to risk of significant financial hardship from catastrophic illness expenses and a potentially vicious cycle of illness-induced poverty.

The cause of these adverse financing trends is not difficult to identify. Collapse of China's community financing institutions in rural areas, combined with lack of true risk pooling in urban areas, produced a dramatic fall in coverage at the onset of economic reforms. The Cooperative Medical System (CMS) drew a large part of required revenues for village doctors and health stations from commune welfare funds. Following agricultural de-collectivization in the early 1980s, the CMS system collapsed along with the communes. In 1979 about 90% of the villages across China had been covered by CMS; by 1989 only 4.8% were (Zhang 1994). Most village doctors became private practitioners and now rely on fee-for-service payment (see Figure 6, China's Rural Health Care System). As a result of these changes, the fraction of Chinese with health insurance cover fell precipitously, from about 70% of the population in 1981 to only 20% by 1993 (World Bank 1997), and has rebounded only slightly, if at all, since then.

The vacuum created by collapse of community financing was not filled by direct subsidies for public care, as might have been the case if China had opted to establish a UK-style National Health Service. Instead, like many other transitional economies (Kornai and Eggleston 2001), China has chosen to establish social insurance.⁴ The strategy is two-pronged: pool risk at the municipal level in urban areas, and re-establish community financing in rural areas (Yuan and Chen 1994). Implementation has been slow, largely because of lack of financing, but official policy aims to cover all rural households with the new CMS system by 2010 (Central Committee of CPC 2002) and all urban employees with basic social insurance even sooner.

⁴ Indeed, for most providers, government budgetary subsidies constitute only a minor revenue source—less than 10% for government hospitals (Ministry of Health 1998 and 2000).

In urban areas, the original pillars of health protection were subsidized public delivery health insurance programs for government employees and workers in state-owned enterprises (SOEs). To expand coverage, pool risk at least at the municipal level, and revise incentives to encourage greater efficiency, experiments with various financing reforms began in pilot cities in the 1990s. These reforms may help to overcome the limitations of previously small insurance pools and the linkage of benefits to employers' fiscal conditions, although results to date have been mixed (Henderson et al. 1995; Liu et al. 2002).

The stated goal of urban social insurance is *di shuiping, guang fugai* ("low benefit level, wide coverage"). A payroll tax, nominally divided between employer (6% of wages) and employee (2% of wages), finances coverage. The insurance benefit structure, which borrows from the Singaporean model and resembles recent US "consumer-driven health plans," combines individual Medical Savings Accounts (MSAs) with a Social Risk Pooling Fund for catastrophic expenditures.⁵

The expansion of insurance has progressed rather slowly, with overall coverage approximately 50% of urban residents. Zhang (2002) reports province- and municipal-level coverage rates in 2001 ranging from 13.9% in Chongqing to 60% or more in Fujian, Hunan, Qinghai and Tianjin. The majority of uninsured—workers' dependents, the self-employed, migrant and informal sector workers—pay out of pocket for health services.

China's incomplete insurance coverage undermines the income- and health-protection aims of social insurance. Moreover, gaps in coverage exacerbate the problem of *adverse selection* (see Cutler and Zeckhauser 2000). China is not nearly as regimented as many in the west perceive it to be; citizens routinely undermine official policies through various strategies of

⁵ MSAs and out-of-pocket payments primarily fund outpatient services. Inpatient care draws financing from the Social Risk Pooling Fund, usually after the employee pays a deductible equal to 10% of his or her annual wage. Patients are also responsible for coinsurance, with rates that are graded (Yip and Hsiao 1997; Eggleston and Yip 2003; see Figure 7, China's Urban Health Care System). The benefit package varies according to local economic conditions. A ceiling on the insured amount of individual medical expenditures (equivalent to four times the average wage in the region) decreases the value of social insurance for protecting against catastrophic illness (Liu 2002).

self-interested behavior or passive ‘resistance.’ For urban health insurance reforms, for example, although firms are under pressure from local social insurance bureaus to pay insurance contributions, “these agencies do not have the legal authority to force participation, because China does not yet have a social insurance law” (Liu 2002, p.143). Unsurprisingly, therefore, adverse selection plagues China’s social insurance system. The insured population is far more elderly and ill, on average, than the general population. The firms that choose not to participate employ disproportionately young and healthy workers, whereas the firms that do participate have higher burdens of older workers and retirees.

The disproportionate coverage of retirees among the insured gives some indication of the magnitude of the adverse selection problem. In 2001, retirees (*lixiu, tuixiu, tuizhi ren yuan*) numbered only 5.5% of the number of currently employed (Ministry of Labor and Social Security 2002, p.501 and 604). Although the concentration of retirees is higher in urban areas, they are clearly over-represented in urban health insurance pools. Retirees constitute 24.9% of the insured population (*canbao renshu*; *ibid*, p.643), and the number of insured retirees was 33% of the number of insured employees (18,152,000/ 54,707,406; *ibid*, p.644). In some regions, the disparities are much larger than these national statistics reveal. For example, in Beijing and Tianjin, the ratio of retirees to currently employees is 59% and 50%, respectively (*ibid*, p.644). The insurance risk for supporting elderly retirees is not spread over a large population, but concentrated on the employees of firms that join the social health insurance scheme. Thus, despite an ostensibly mandatory single-payer system, adverse selection is indeed a challenge for China’s social health insurance. China partly combats adverse selection by stipulating that the social insurance benefits cover only “basic” services.⁶

⁶ If the benefit package were more generous, as would be sensible to protect against catastrophic illness (e.g., Liu 2002), even fewer healthy, young workers—or firms that employ them—would find it attractive to participate. Although in principle supplementary insurance could fill the gap created by low-benefit basic coverage, commercial insurance companies have been understandably reluctant to expand with widely affordable supplementary insurance because consumers most eager to enroll would be high-risk. Some Chinese social insurance bureaus fill the gap by offering supplementary insurance directly (Zhenjiang and Suzhou) or through commercial insurance companies (Xiamen; *ibid*,

Taken to an extreme, firms on the margin about where to locate might favor areas with low social insurance burdens, such as rural areas or urban areas with a concentration of young workers (such as Shenzhen). This effect is currently limited by the many other factors driving firm location decisions, and the ability of many firms to avoid social insurance payments even when located in areas with ostensibly mandatory contributions.

Pricing and Payment

Provider payment in China is predominantly on a fee-for-service (FFS) basis, with a government-regulated fee schedule. The problems with administered FFS prices are well known (Newhouse 2002). In China, the salient feature of administered prices is their distortion from average costs, intentionally designed to provide implicit insurance to poor patients. Prices for basic services often do not cover even marginal cost. To compensate providers for lost revenue, some other services—primarily high-technology diagnostic procedures and most pharmaceuticals—are priced well above average cost. These distorted prices give perverse incentives, helping to drive cost escalation and compromise patient access to care (see discussion in Eggleston and Yip 2004).

China's pricing strategy for health services closely resembles its "dual-track pricing" in other sectors of the economy. By allowing firms to sell above-quota output at market-driven prices, while enforcing deliveries under the remaining plan prices and quotas, China achieved Pareto-improving economic reforms, or "reform without losers" (Lau, Qian and Roland 2000). This "dual track" strategy—continuing to enforce plan prices and output while allowing market-driven profit maximization on the margin—was tremendously successful for agricultural and manufactured goods. Yet similar policies applied to the health sector proved dysfunctional. Why?

Unlike manufactured goods, health service production cannot be directly regulated to ensure the appropriate quantity of “plan track” basic services. The government does not know how many basic services any particular patient or population needs. Instead, China regulated prices, with “basic services” priced below marginal cost so that even low-income patients could buy the services they needed. The “market track” of expanded production allowed providers to charge prices well above cost for new “high tech” services and drugs. These cross-subsidies ostensibly would assure that uninsured poor peasants could access basic services, while allowing health care providers to recover costs on “market track” services (since direct subsidies to government-owned providers declined precipitously; see Eggleston and Yip 2004).

Instead, distorted prices embody perverse incentives for hospitals and other health care providers, who have greater power over consumer decisions than suppliers in many other sectors. Providers can make money by over-treating patients with costly diagnostic procedures (such as CT and MRI scans) and prescribing drugs, while skimping on unprofitable basic curative and public health services. The risks of this kind of *supplier-induced demand*, a controversial phenomenon documented to some degree in the US and other high-income countries (McGuire 2000), are even greater in developing countries. Consumers are even less discerning than in developed countries, and therefore more vulnerable vis-à-vis providers (except that wealth and liquidity constraints preclude many from following advice for expensive treatment). Moreover, developing countries face large opportunity costs of excessive spending on high-tech medicine, since the burden of disease is primarily in areas addressed cost-effectively with public health and lower-tech services.

The unintended (but hardly unpredictable) supply-side reaction to distorted FFS reimbursement spurs cost escalation and exacerbates the very access problems that distorted prices were meant to prevent. Recognizing these distortions, several social insurance bureaus have experimented with aggregate forms of payment, such as case-based payments or fixed

budgets with bonuses and withholds tied to performance. Policymakers also intend to adjust the fee schedule so that fees better reflect actual resource costs (Yip and Eggleston 2001 and 2004; Eggleston and Yip 2004).

Toward a Pluralistic Delivery System

Health care delivery in most established market economies includes a mixture of government and private ownership. In the US, 70.8% of community hospital beds are private not-for-profit, 13.4% are for-profit, and 15.9% government-owned (AHA 2002, pp.2-5). Mixed ownership prevails among European health sectors as well, with typically a larger share of government control. Nevertheless, on average more than one in five hospitals in the EU are privately owned (22.4% in 1996; WHO European Health for All database), and in several countries a substantial fraction of total beds (including long-term care beds) are investor-owned.

Economic theorists have long debated whether ownership of health care providers matters for how patients are treated and for the overall performance of the health sector. In particular, should government use public financing to “make” health services in public clinics and hospitals, or “buy” health services from the private sector? This “make or buy” decision has no clear theoretical answer (Poterba 1996; Shleifer 1998; Eggleston and Zeckhauser 2001; Cutler 2002b). Government can use monopsony to counteract the power of the medical profession and purchase services at lower prices. Yet private provision avoids bureaucratic monopolies that become inefficient and unresponsive to patients.

According to the property rights theory of ownership, the “make or buy” decision depends upon how well governments can write, monitor and enforce contracts (Hart, Shleifer and Vishny 1997). A well-written and enforceable contract can harness private efficiency while proscribing quality distortions and selective treatment of profitable patients. Indeed, if a buyer could specify in a contract exactly what services, for whom, at what quality and cost, they wish

to buy, then the ownership of the provider should not matter. In practice, however, contracts can never specify all the details about treatment for every patient. In developing and transitional economies, contracts are even less likely to be comprehensive and enforceable, so that perverse incentives for providers to skimp on non-contractible quality are even more of a concern. Health sector institutions such as the Hippocratic oath of medical ethics or the prevalence of nonprofit providers can be seen as responses these concerns (Arrow 1963; Cutler 2002b).

China, like most transitional economies, is moving from “make” to “buy” on the “make or buy” continuum. Village doctors and individual urban providers became self-employed, charging for services on a FFS basis. Clinics and hospitals are mostly government-owned or operated by SOEs (see appendix Figure 4). Recently, however, Chinese policymakers have increasingly come to view government hospitals as a form of SOE, meriting experimentation with managerial autonomy, incentives, and property rights reforms (Li and Song 2002). Some of the same trends driving ownership reform elsewhere in the economy—such as harder budget constraints and competitive pressures (Cao, Qian and Weingast 1999)—also spur property rights diversification in the health sector. Official policy now differentiates providers by ownership and tax obligations. Hospitals and other healthcare providers must register as government, private nonprofit, or private for-profit entities. Government and private nonprofits are tax-exempt and subject to administered prices. Government hospitals continue to receive some direct financial support from local or provincial governments. Private for-profit providers are free to set their own prices but required to pay taxes.

Eggleston and Yip (2004) calibrate a simulation model of the impact of China’s recent ownership and pricing reforms on cost, quality and access. Both theoretic and simulation results show how providing implicit insurance through distorted prices leads to over/under use of services by profitability, which in turn fuels cost escalation and reduces access for the poor. The authors suggest that regardless of ownership structure, broadened insurance coverage and mixed

payment are better options than continued implicit cross-subsidies through distorted FFS. Lim et al. (2003) also emphasize the need for careful sector-wide regulation and quality assurance.

4. Discussion and Conclusion

Modifying the policy recommendations of Kornai and Eggleston (2001) to the Chinese context, we argue that the most pressing priority should be to (re-)establish social solidarity in the health sector through expanded community financing in rural areas and social insurance in urban areas, while upholding what progress had been made in allowing, and being responsive to, individual choice.

Expanding insurance will require additional financial commitment, or a significant re-allocation of resources toward rural coverage and population health. As shown in Figure 4, health spending in China has grown considerably over the past two decades, exceeding even the blistering pace of growth of China's overall GDP. Can China afford to devote an increasing share of national income to the health sector? The concept of "affordability," although vague, can be made specific (Chernew, Hirth, and Cutler 2003). Arguably, by conventionally accepted methods of measuring affordability, China *can* afford to continue to have health spending increase at a rate slightly higher than GDP growth, and thus for the health sector to absorb an increasing share of GDP, for at least the next decade or two. Indeed, this will hold true if the experience of other developing and industrialized countries is any guide, because the elasticity of health spending with respect to per capita GDP appears to be greater than one (Gerdtham and Jonsson 2000). An aging population, epidemiologic transition to more chronic diseases, increasing obesity and smoking-related illness, along with a significant burden from communicable diseases like tuberculosis and HIV/AIDS—all these factors make it difficult to envision health spending not growing as fast as, if not faster than, per capita income.

What China *cannot* afford is to have that spending concentrated on the urban elite, to the exclusion of basic coverage for the majority of China's rural population. Although the barriers to implementing effective community financing or other structures for the majority are formidable (Liu et al. 1996), China has confronted and overcome similar challenges in the past. The question of affordability becomes, can China afford not to put in place broad coverage for basic care? Since Chinese rural residents are already burdened with many seemingly arbitrary exactions, achieving widespread coverage will almost surely require significant redistribution of resources, particularly from the wealthier coastal and urban areas to the poorer rural and inland areas. Such transfers would seem to be more politically feasible now that the Chinese government has launched a campaign for development of the western regions and balanced economic development.

Expanded health coverage would be one enabling factor for improving population health and for helping to overcome disparities in health status exacerbated by inequitable access to care. Health insurance expansion is also socially valuable beyond its link to improved health. For example, health insurance provides risk protection, helping to prevent illness-induced poverty and to promote social solidarity. Universal health insurance can also make workers more productive, spur labor mobility between jobs, and reduce social welfare burdens on enterprises—allowing governments to harden budget constraints and transition to a market-based system with a social safety net separate from SOEs.

In many countries (such as the US), public insurance expansion must balance the benefits of increased coverage against the costs of “crowding out” private insurance. In China, however, private health coverage is modest to nonexistent. An “advantage of backwardness” (Gerschenkron 1962.) from relying on such extensive out-of-pocket private financing is that expanding social insurance will not crowd-out private insurance.

Thus theory and international experience all suggest an important role for government in organizing broad-based coverage for basic medical care. Expanded public financing strengthens the government's ability to use its role as purchaser to promote quality care for all at reasonable cost. Social insurance bureaus can take the lead in promoting effective purchasing through payment reform, quality assurance initiatives, etc. A second urgent priority is promoting population health (Rao 2003); examples include educating consumers (about individual behaviors such as the risks from smoking, drinking, unprotected sex and sedentary lifestyles) and confronting the potential for a devastating co-epidemic of HIV/AIDS and tuberculosis.⁷

A third and final important government role is in providing prudent regulation of a pluralistic delivery system. Theory does not dictate what the appropriate mix of public and private ownership is, and international experience provides mixed results (Sloan 2000; Preker and Harding 2003). Nevertheless, most established market economies have moved toward public financing and pluralistic delivery (Cutler 2002a). Although China's policy focus elsewhere during initial transition took China in the opposite direction—with less public financing and continued public delivery—recent reforms foretell greater convergence to international norms.

With expanded public financing and effective regulation of pluralistic delivery, China may yet be able to reform the health sector into a model for other countries, as it once was and as other aspects of China's socioeconomic development have been. These challenges will require financial and political commitment as well as enlightened policy leadership.

⁷ In fact, expanding insurance coverage and promoting population health are intimately intertwined. Consider one example: addressing the needs of China's "floating population," the 60 to 100 million workers who migrate from rural to urban areas at any point of time in search of better employment and life opportunity. This population largely lacks health insurance. Loss of productivity and poverty-induced illness for this population will adversely influence overall standards of living and economic growth, particularly since China's continued economic development will depend upon flows of labor out of agriculture and into urban industrial or service occupations. As labor mobility increases, epidemic diseases find an easy way to spread among the population. Thus, expanding health coverage to the floating population will be critical for effective prevention and control of epidemic diseases and for closing the widening gaps in health status across sub-populations in China.

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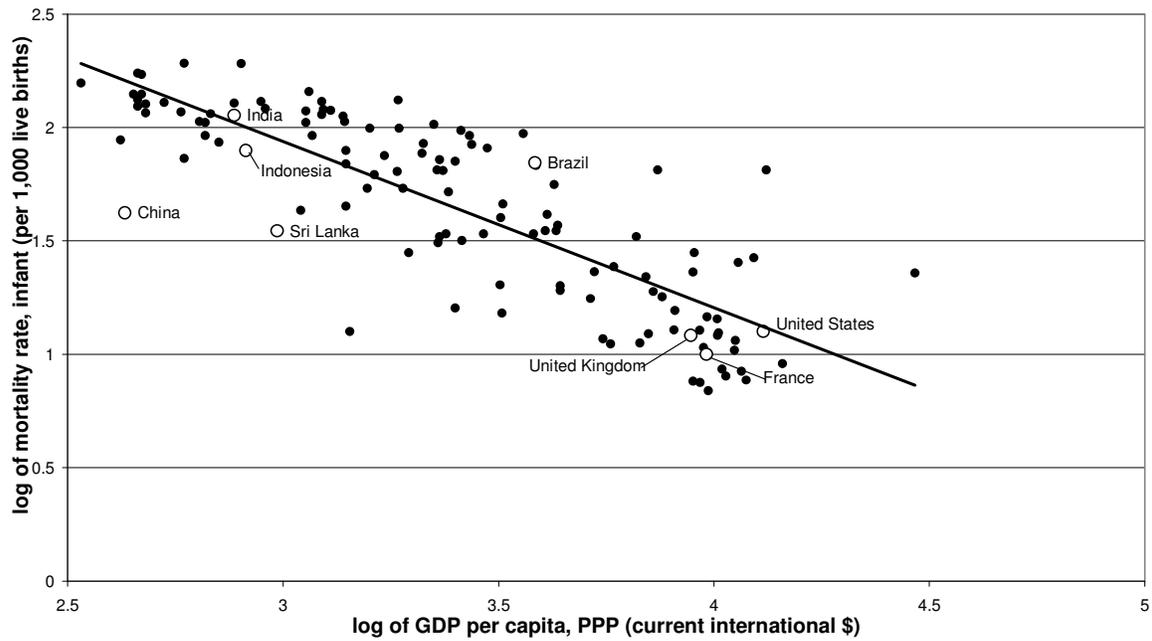
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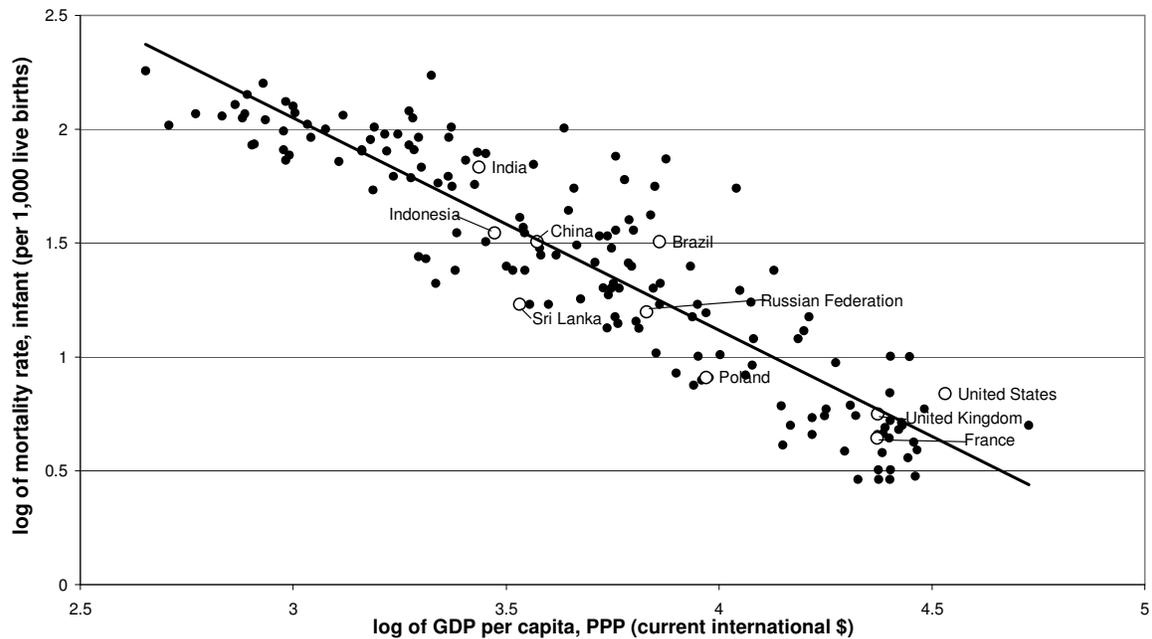
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Figure 1. Infant Mortality Rate and Per Capita GDP, 1980 and 2000

A. Log of Mortality Rate, Infant, 1980



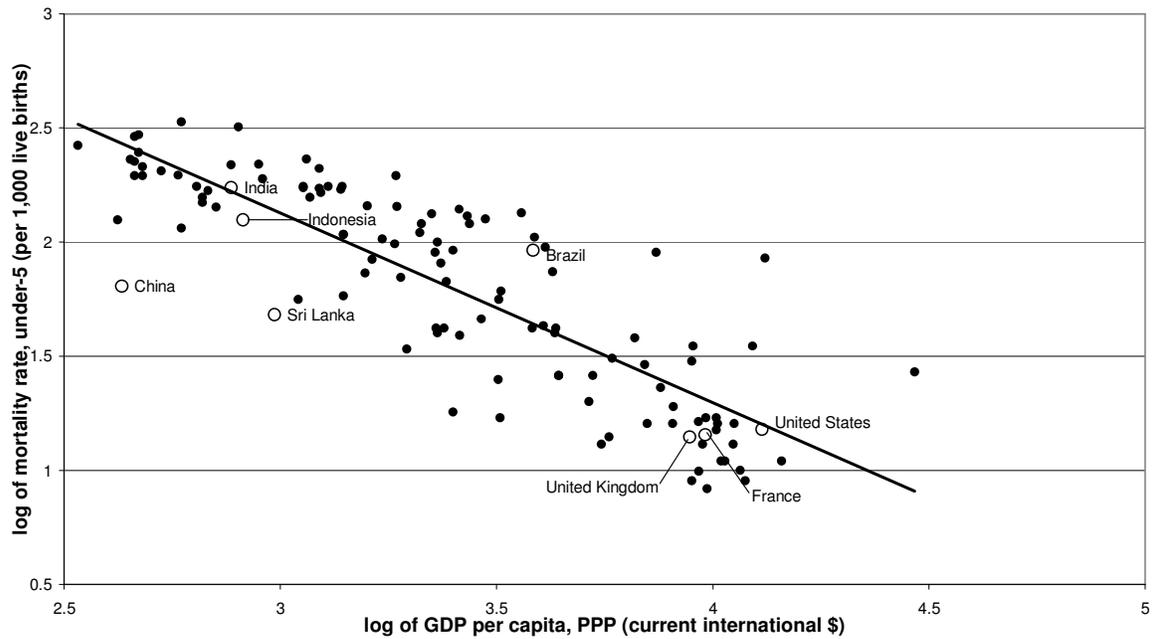
B. Log of Mortality Rate, Infant, 2000



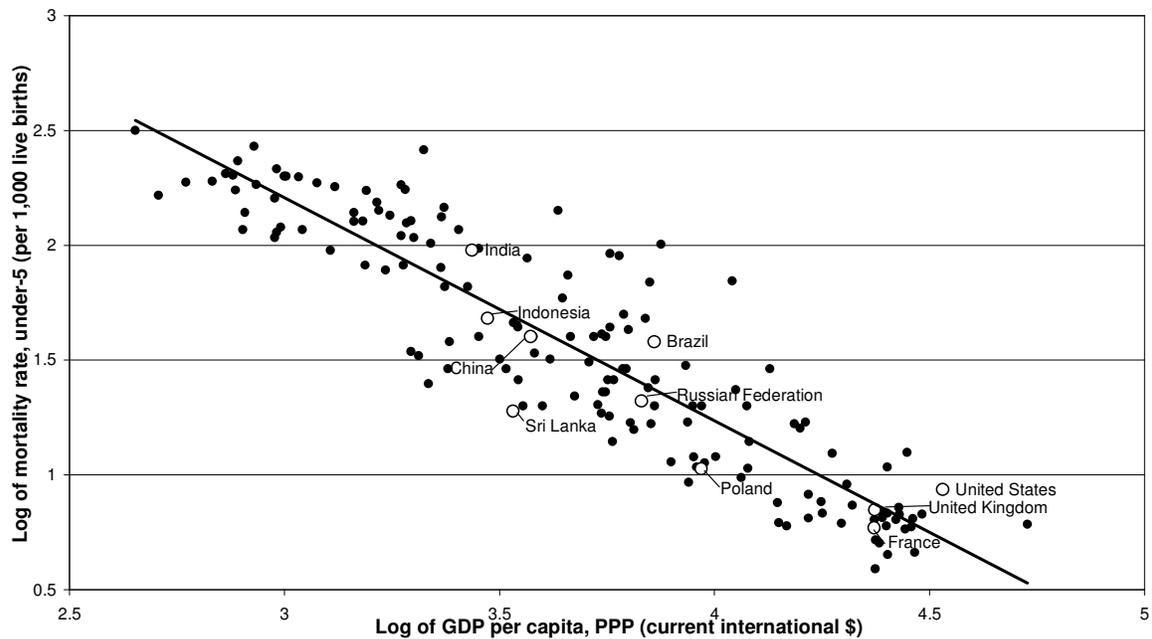
Source: World Development Indicators, World Bank, 2000.

Figure 2. Under-5 Mortality Rate and Per Capita GDP, 1980 and 2000

A. Log of Mortality Rate, Under-5, 1980



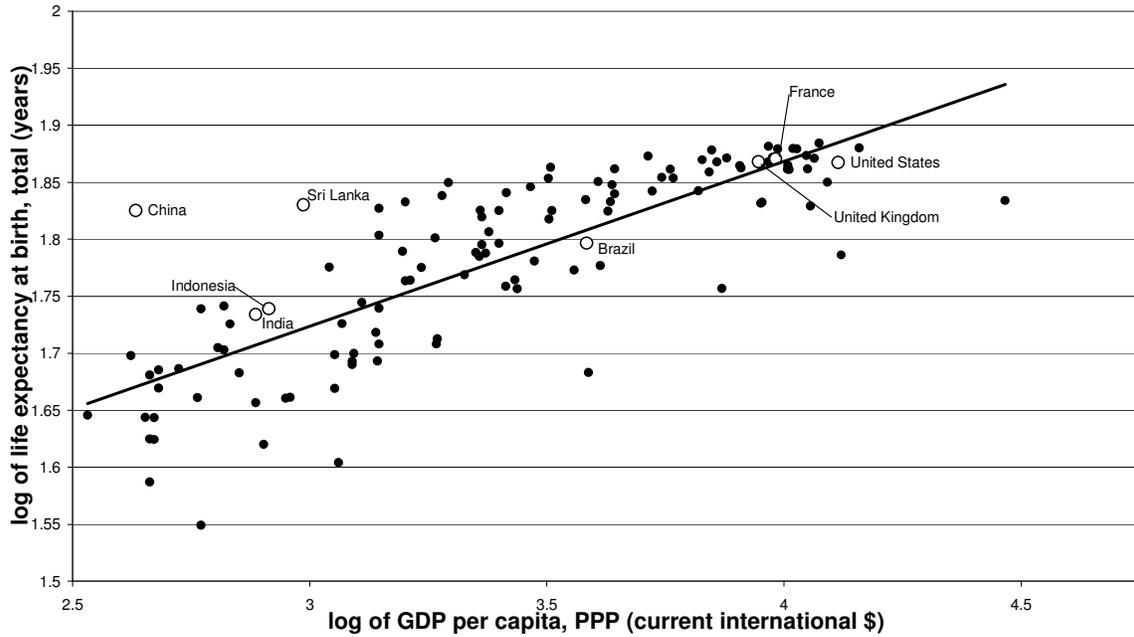
B. Log of Mortality Rate, Under-5, 2000



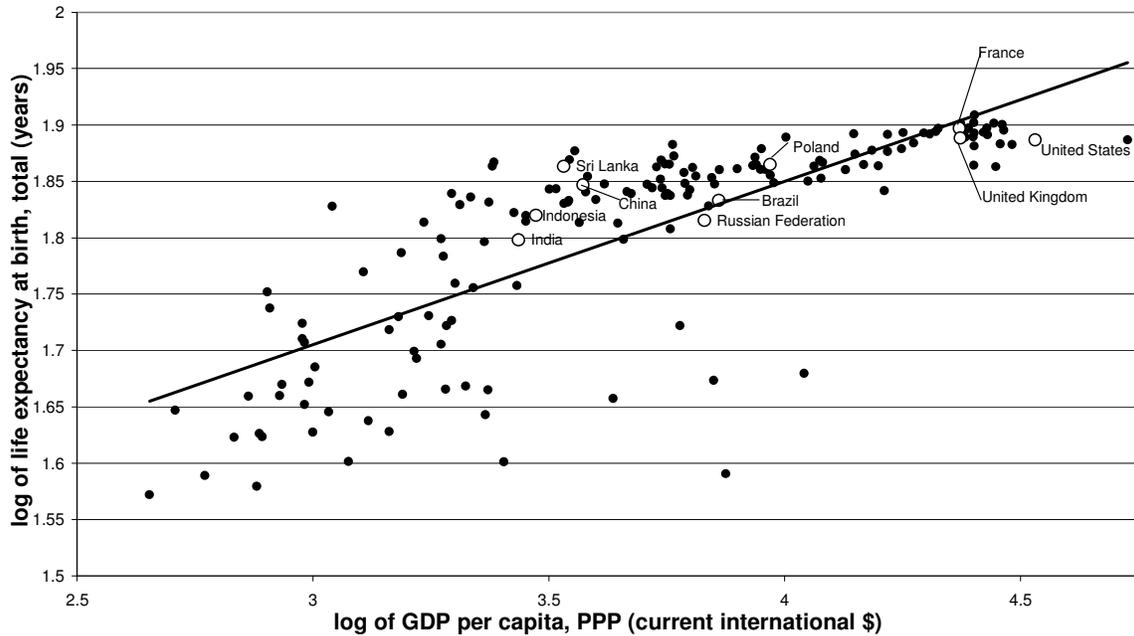
Source: World Development Indicators, World Bank, 2000.

Figure 3. Life Expectancy at Birth and Per Capita GDP, 1980 and 2000

A. Log of Life Expectancy at Birth, 1980



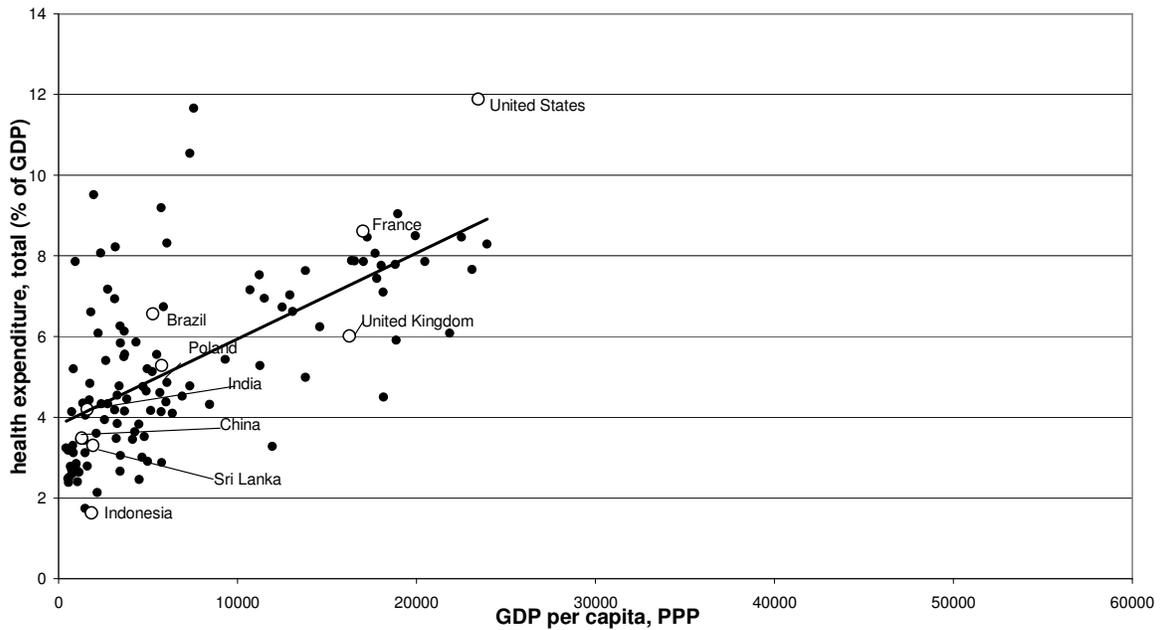
B. Log of Life Expectancy at Birth 2000



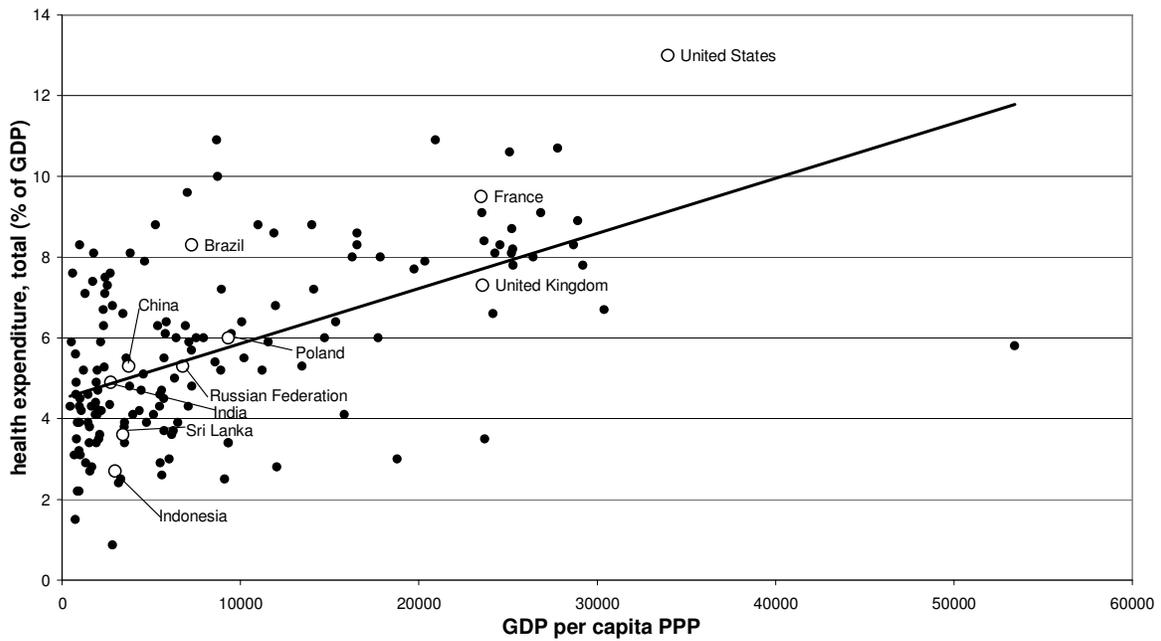
Source: World Development Indicators, World Bank, 2000.

Figure 4. Health Expenditure and Per Capita GDP, 1990 and 2000

A. Total Health Expenditure, 1990



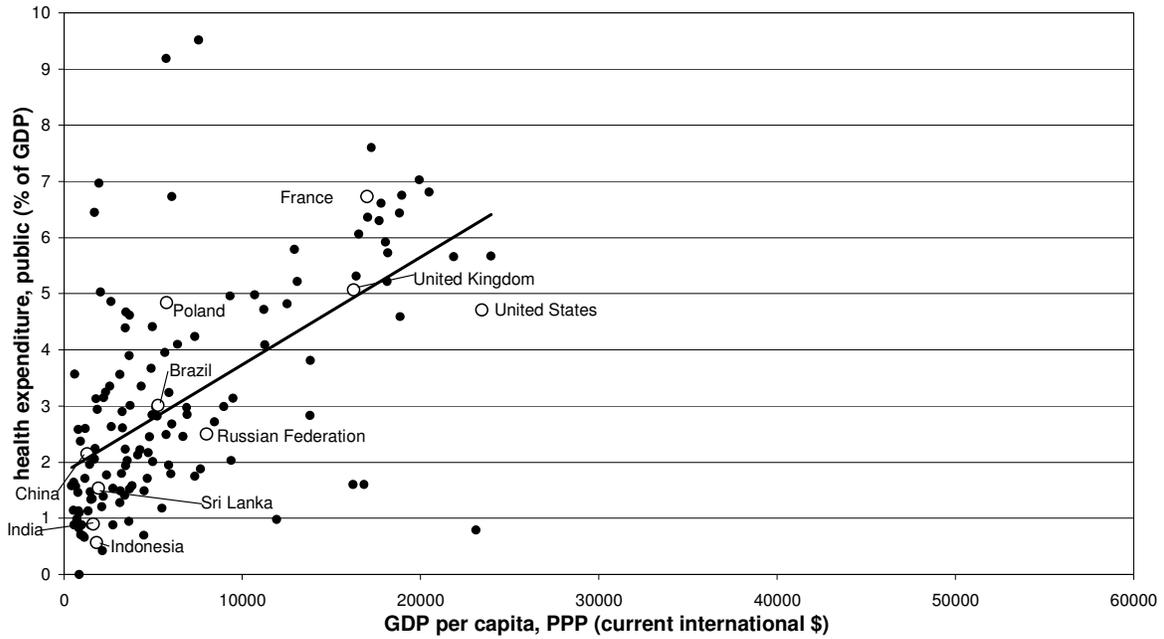
B. Total Health Expenditure, 2000



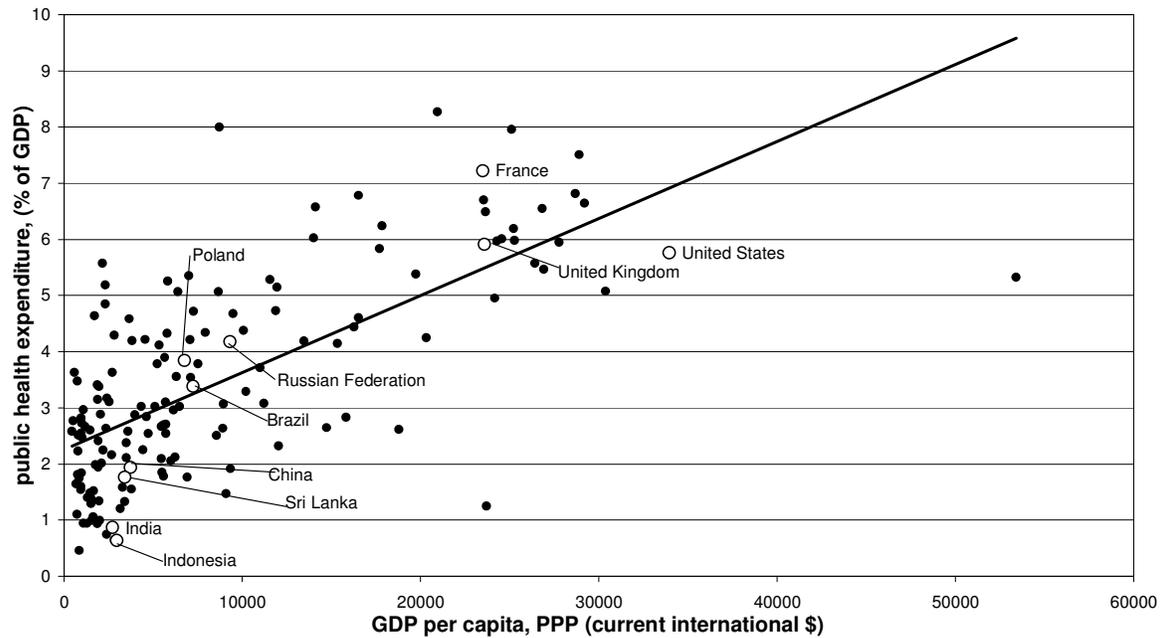
Source: World Development Indicators, World Bank, 2000.

Figure 5. Public Health Expenditure and Per Capita GDP, 1990 and 2000

A. Public Health Expenditure, 1990



B. Public Health Expenditure, 2000



Source: World Development Indicators, World Bank, 2000.

Figure 6. China's Rural Health Care System

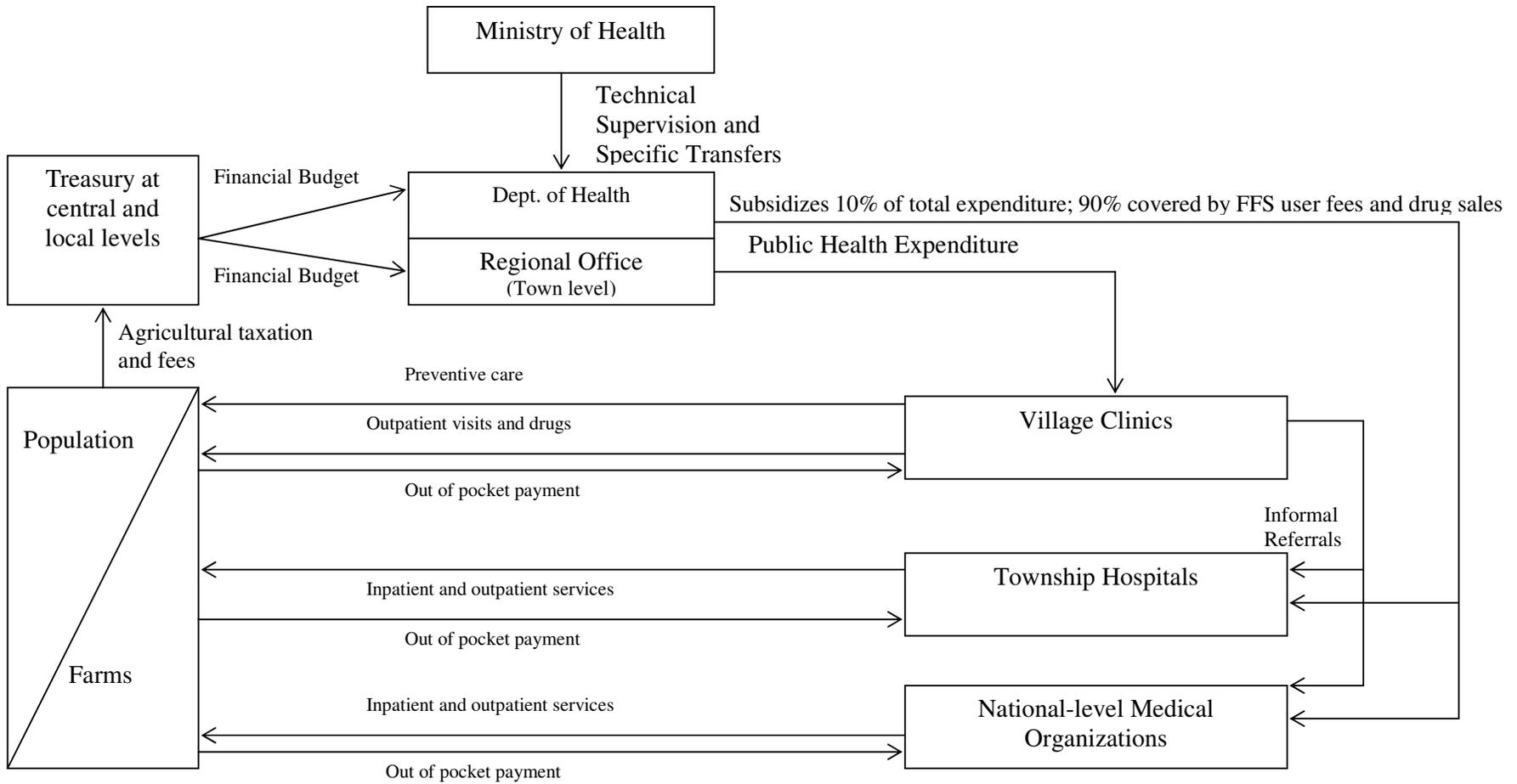
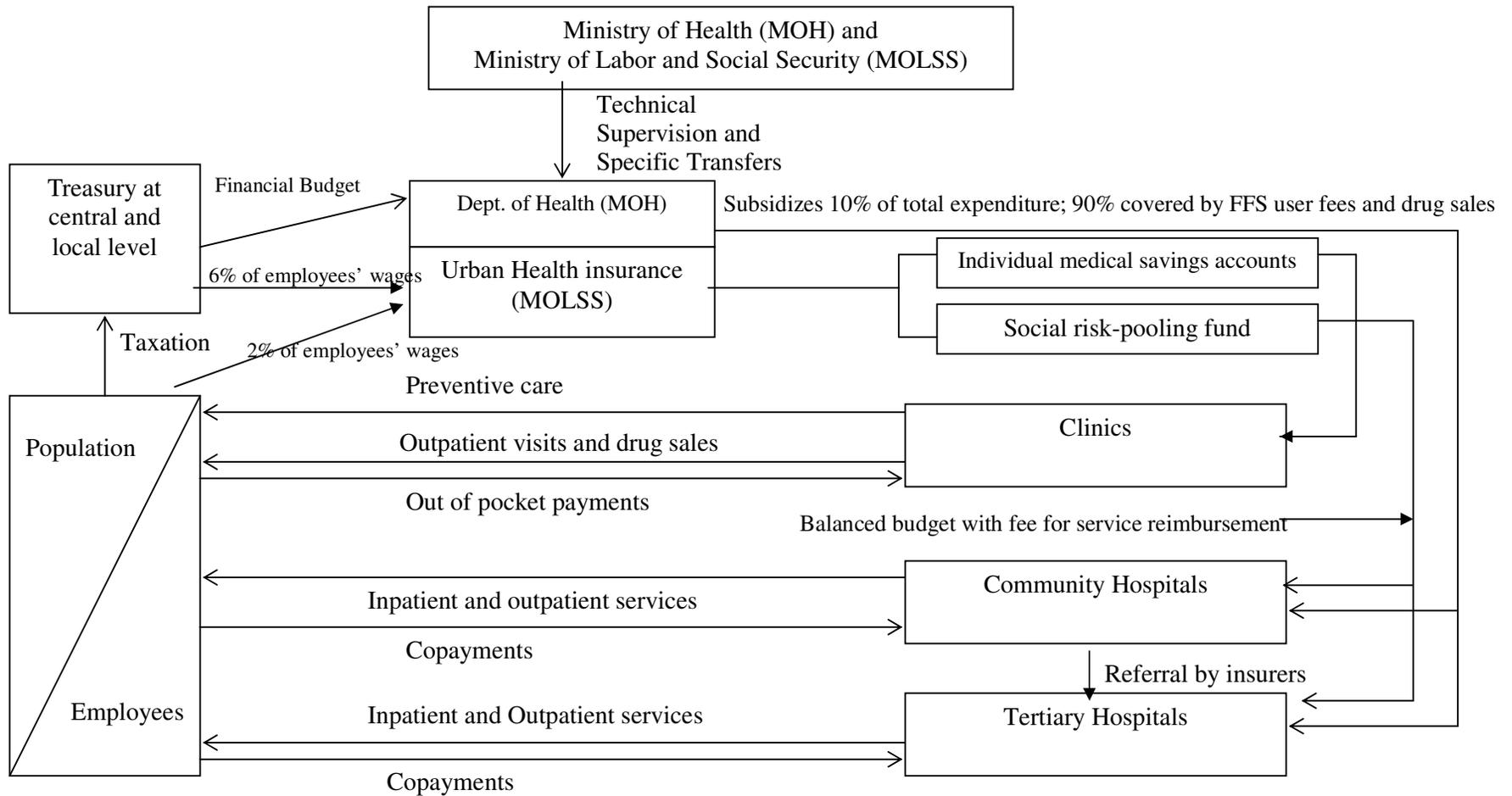
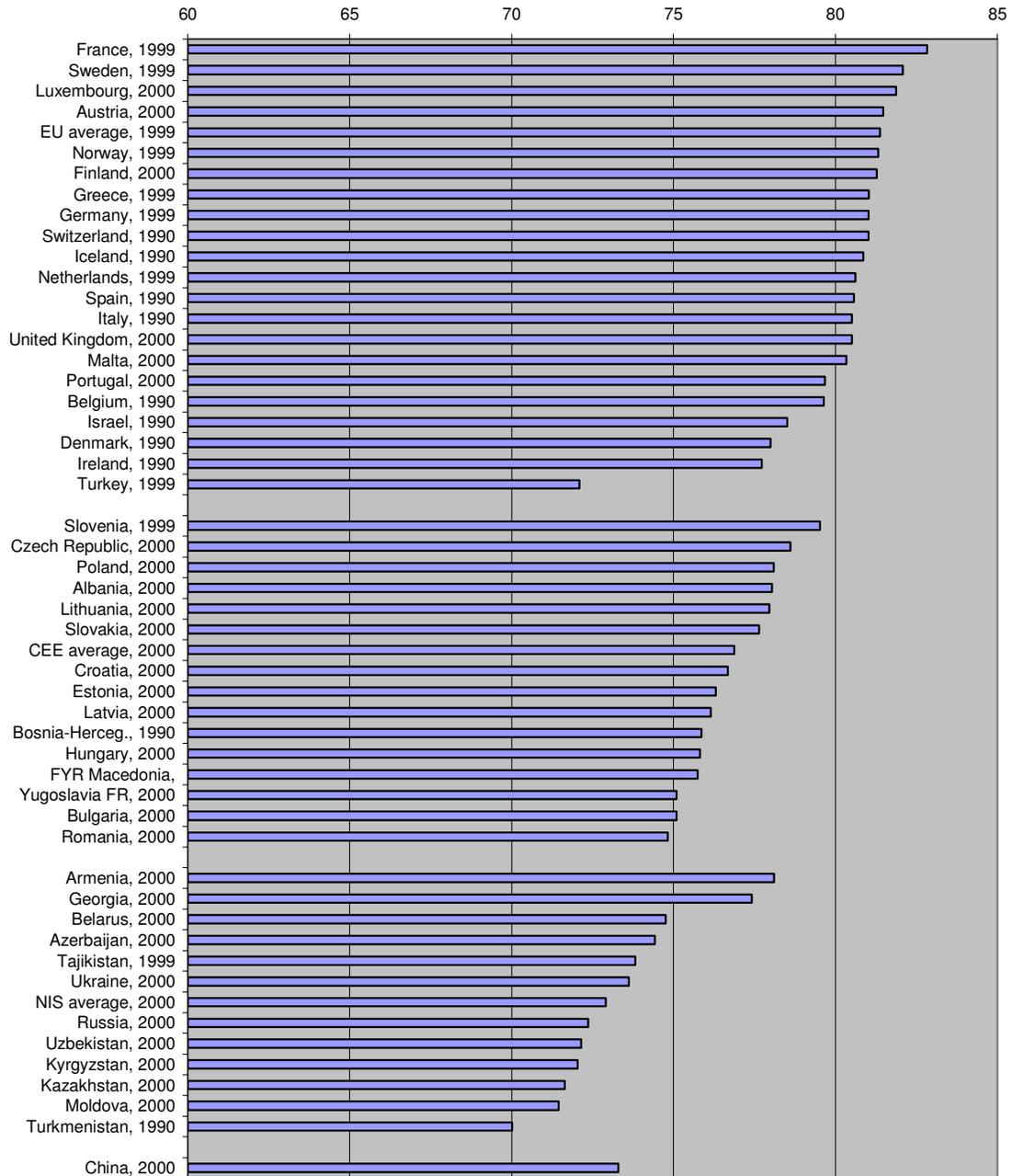


Figure 7. China's Urban Health Care System

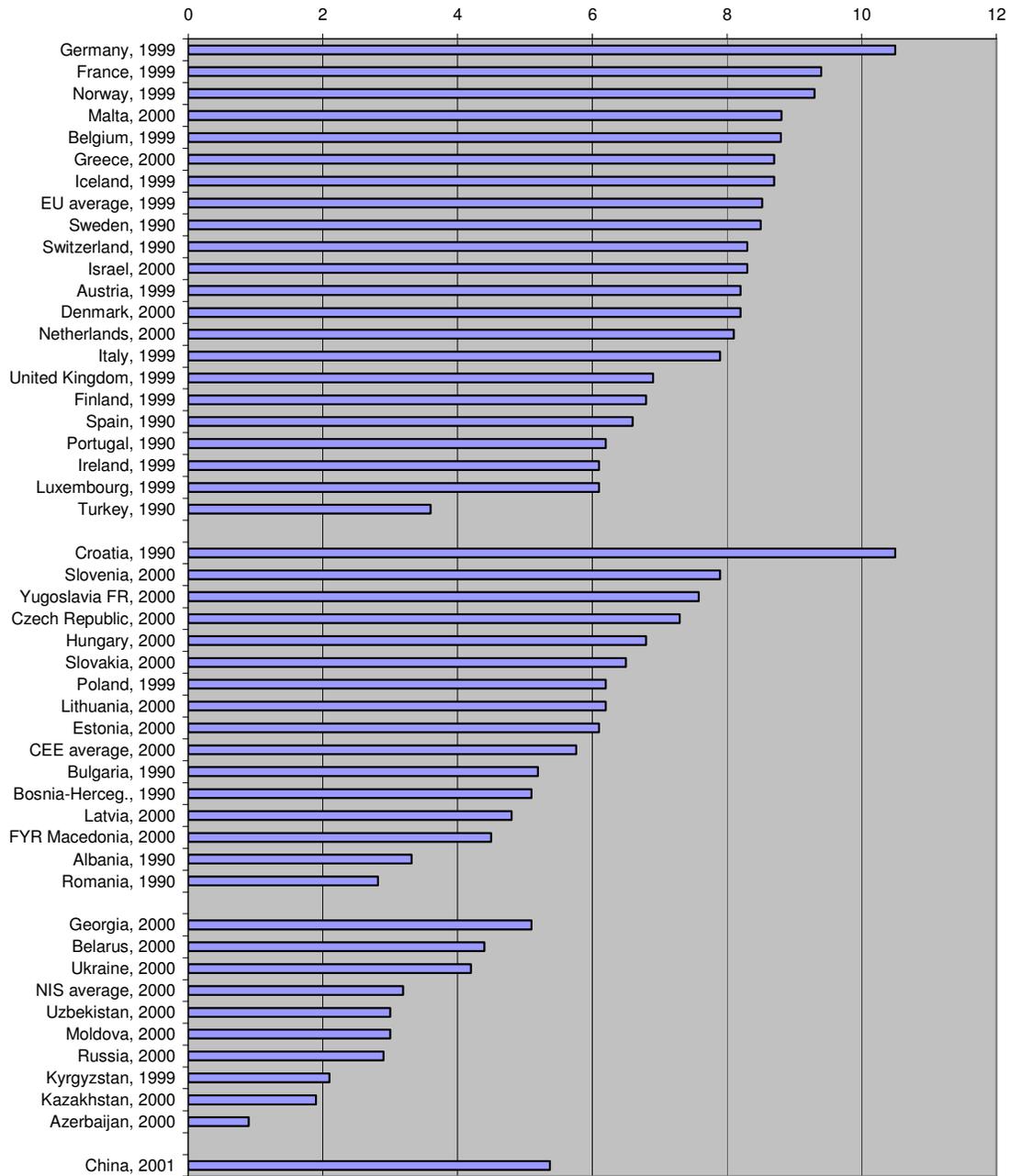


APPENDIX

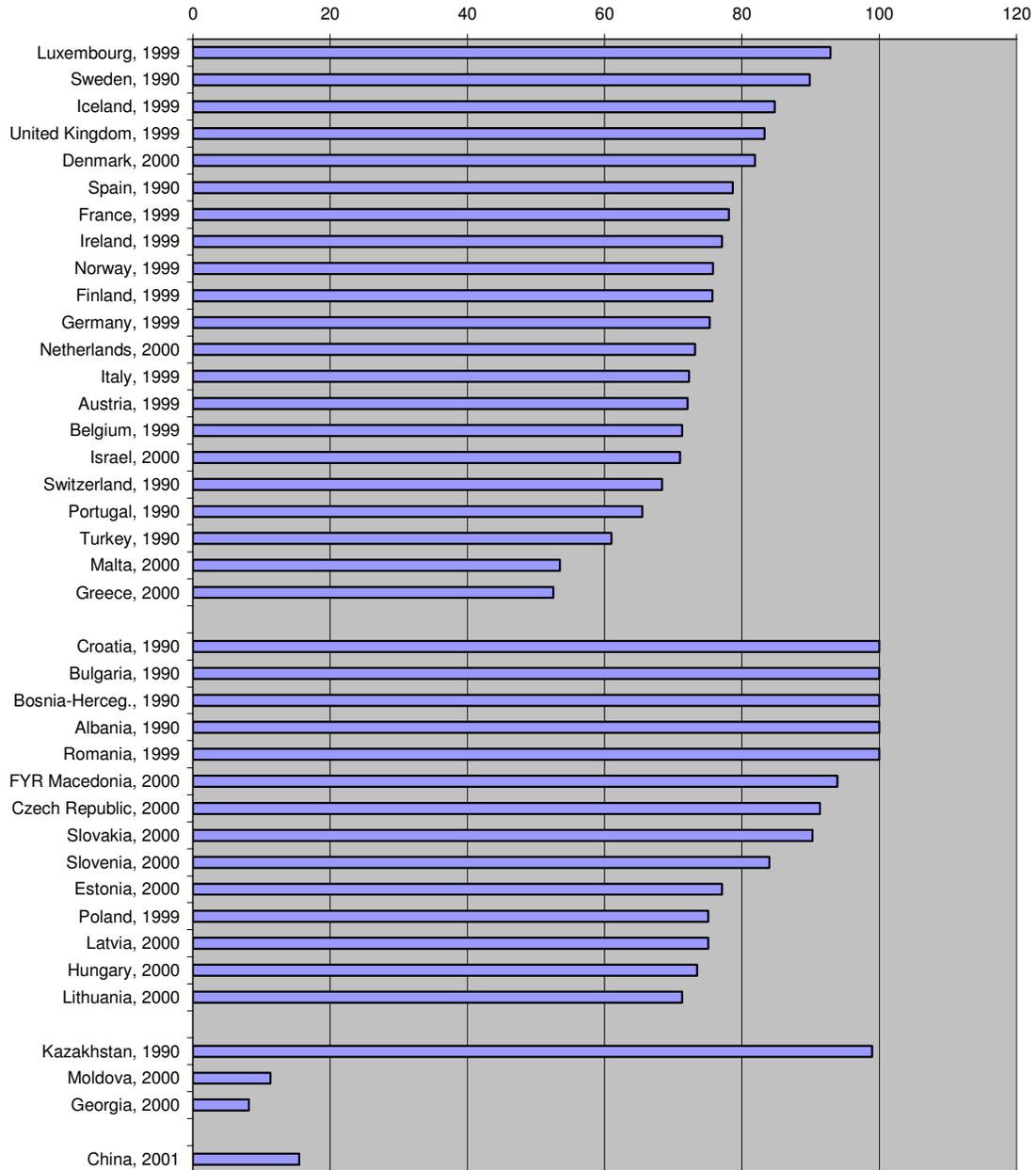
Appendix Figure 1. Life Expectancy of Females at Birth in Years in the WHO European Region and China, Latest Available Year



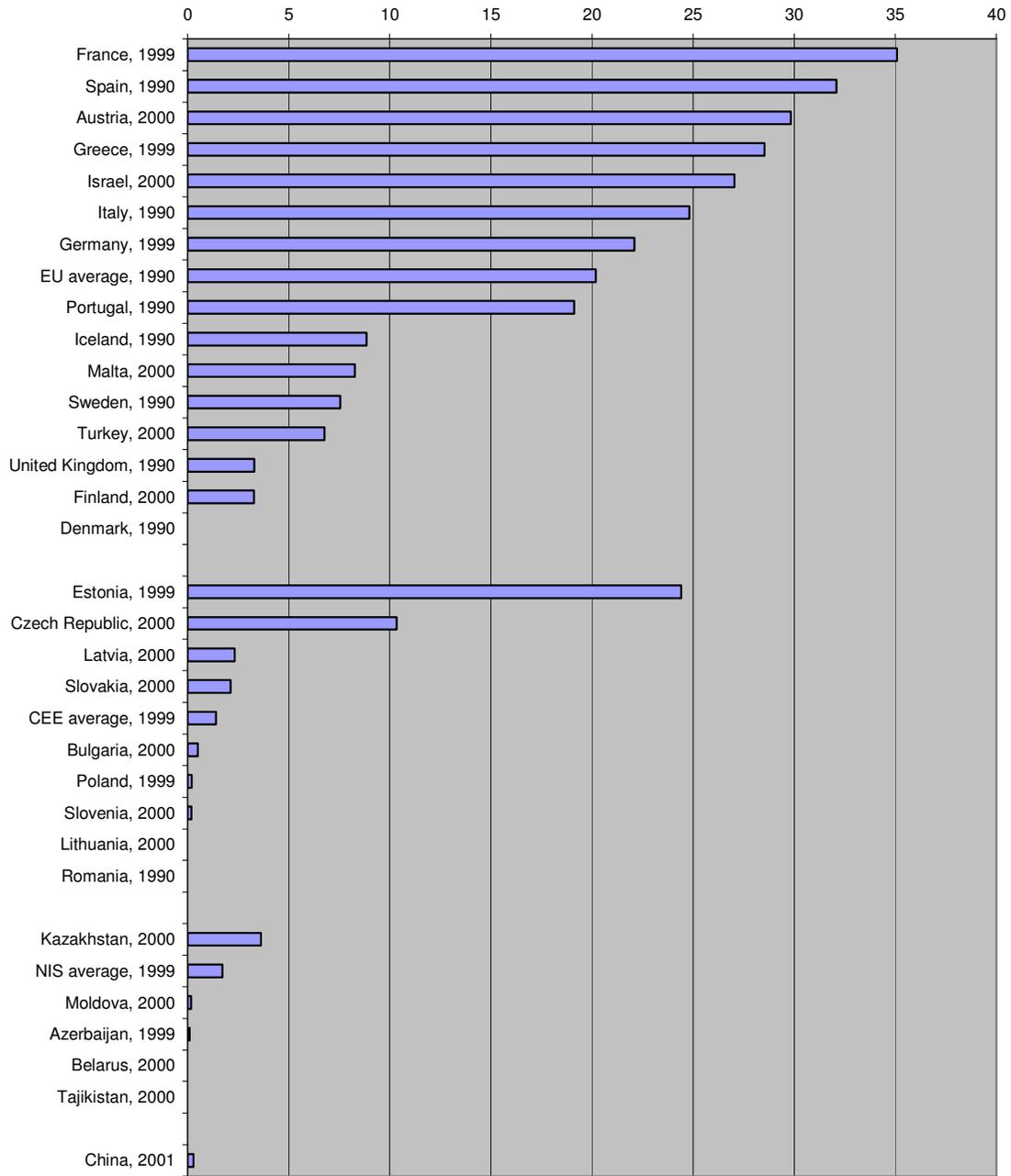
Appendix Figure 2. Total Health Expenditure as Percent of GDP in the WHO European Region and China, Latest Available Year



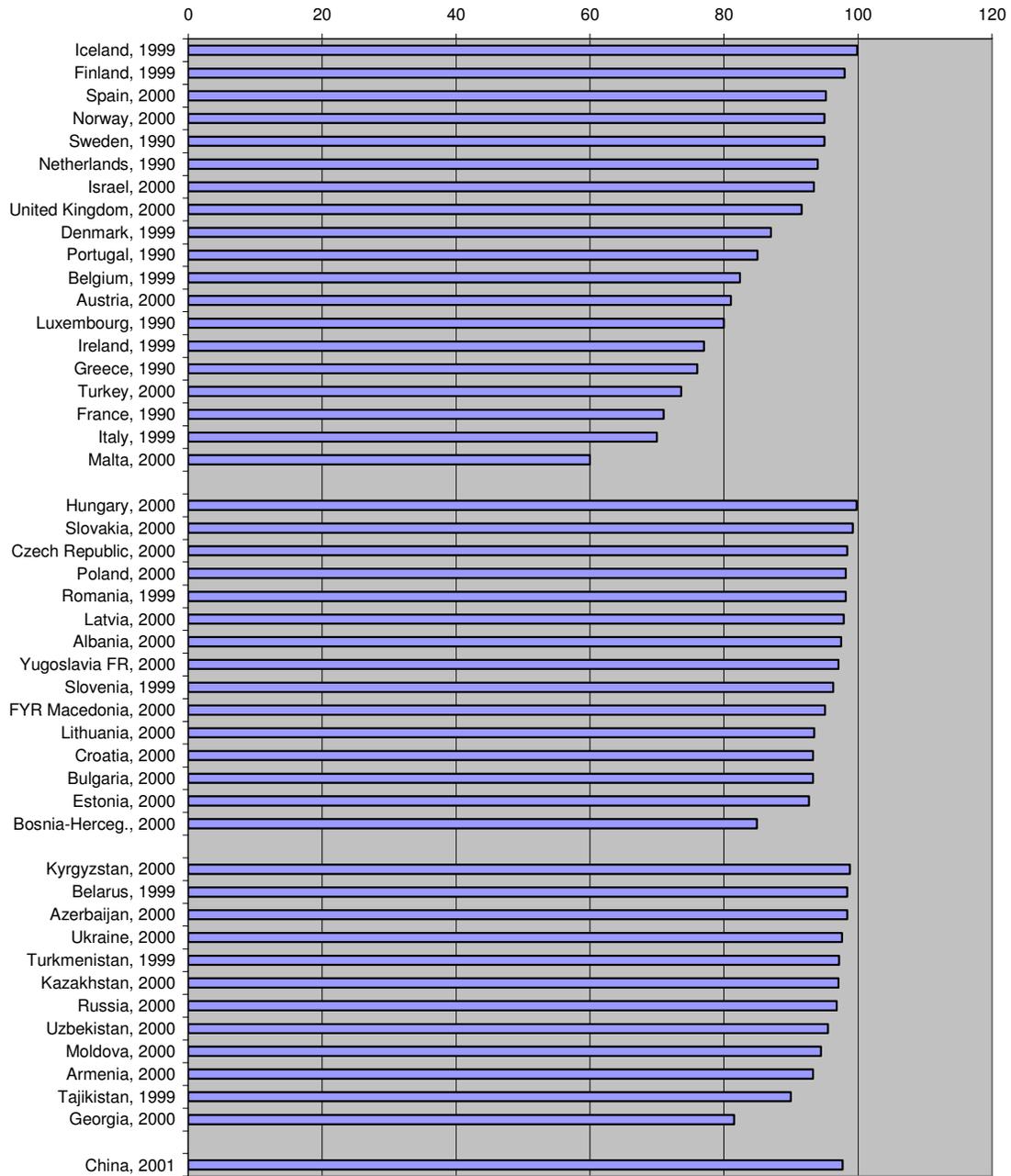
Appendix Figure 3. Public Health Expenditure as Percent of Total Health Expenditure in the WHO European Region and China, Latest Available Year



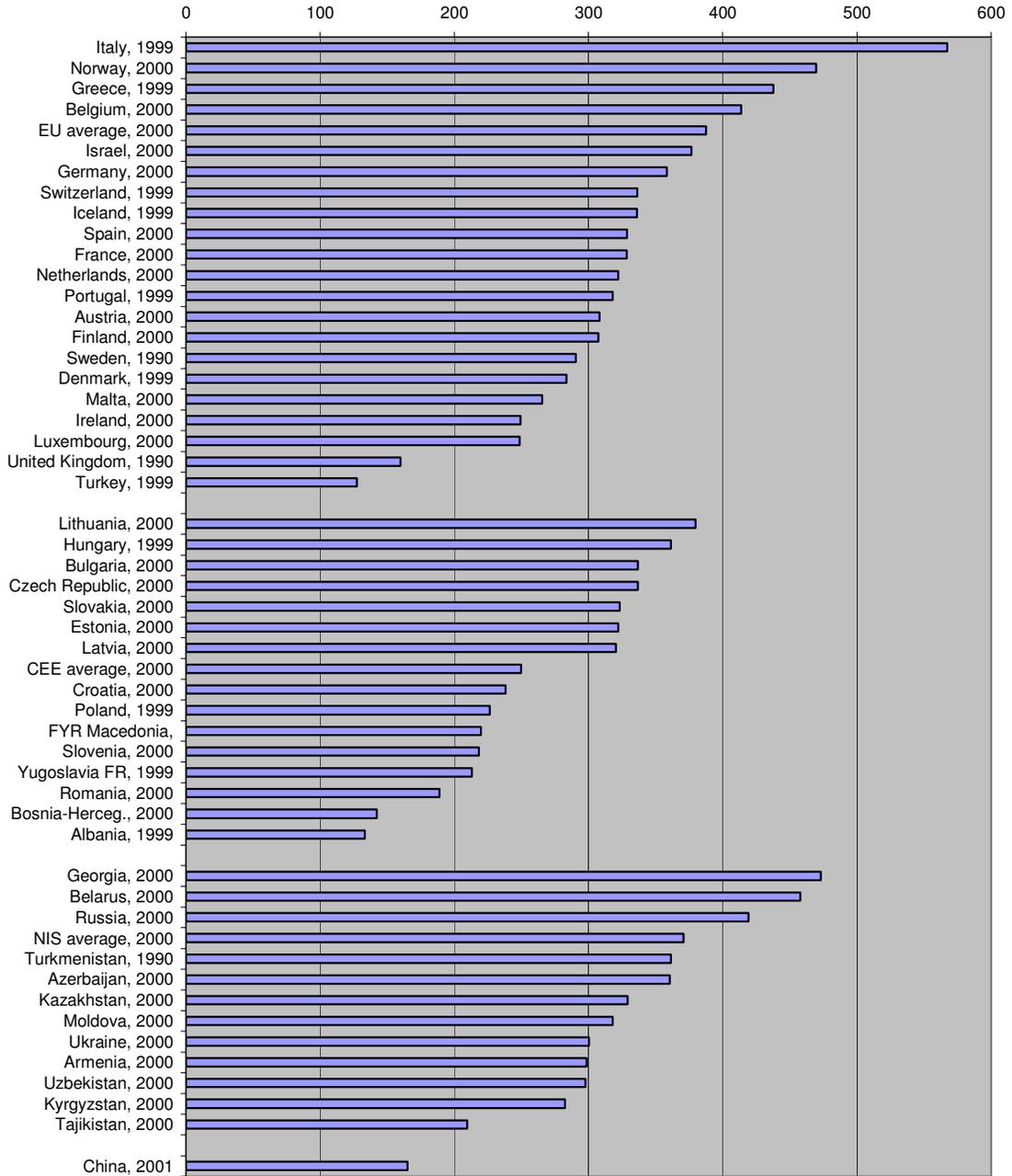
Appendix Figure 4. Private In-Patient Hospital Beds as % all Beds in the WHO European Region and China, Latest Available Year



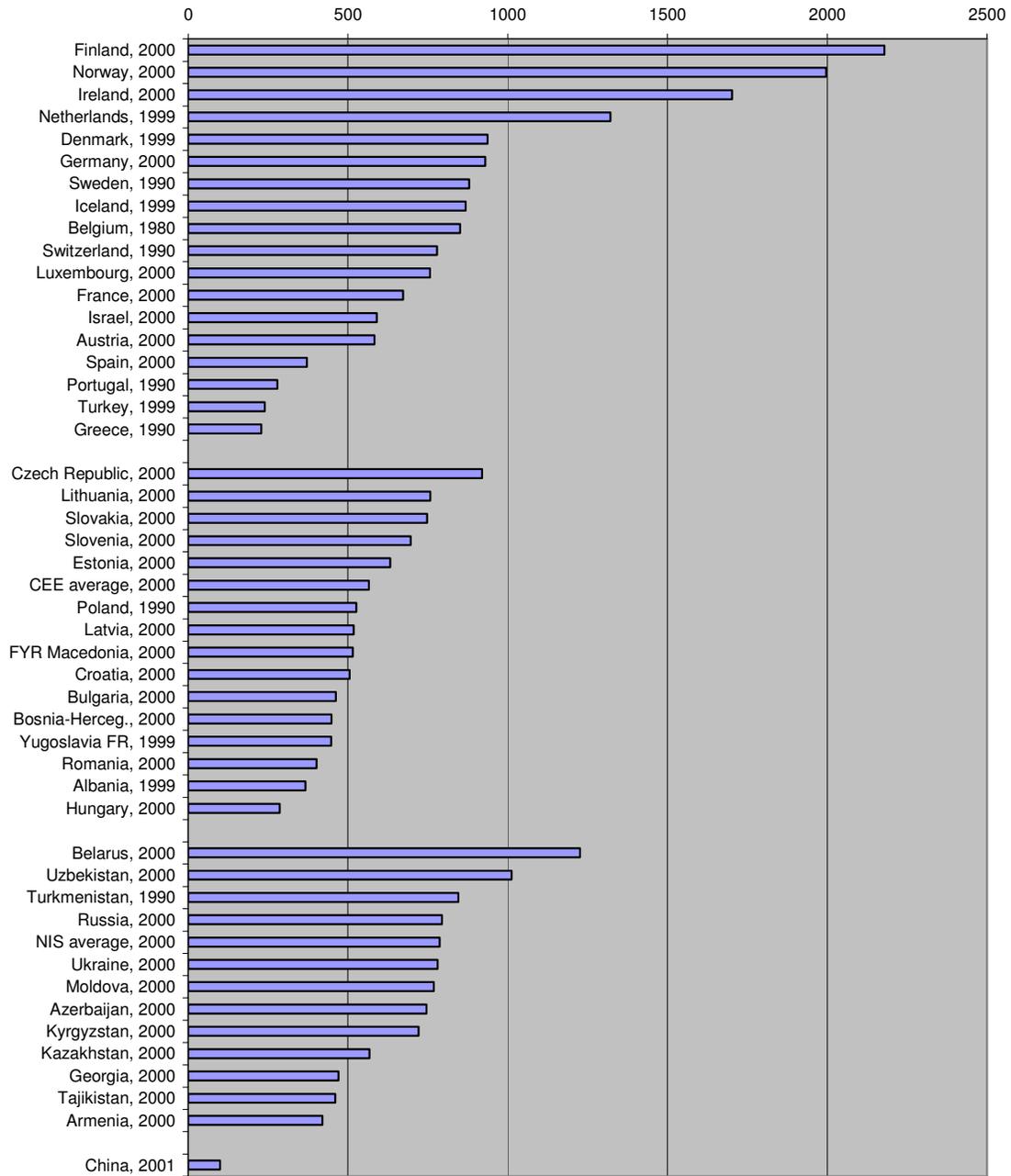
Appendix Figure 5. Percent of Children Vaccinated Against Measles in the WHO European Region and China, Latest Available Year



Appendix Figure 6. Physicians per 100,000 Population in the WHO European Region and China, Latest Available Year



Appendix Figure 7. Nurses (PP) per 100,000 Population in the WHO European Region and China, Latest Available Year



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