

**The World Bank Extractive Industries Review:
The Role of Structural Reform Programs towards
Sustainable Development Outcomes**

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General Overview

The World Bank Group has two common goals that unify work across its five organizations. These two goals are to reduce poverty and promote sustainable economic development. In order for economic development to be considered sustainable it must embody three primary elements, economic, social, and environmental sustainability.

The World Bank has recognized that for its activities in a given country to contribute to sustainable development outcomes, there must be supportive economic structures, policies and institutions. However, in many developing countries, including those with economies built primarily on extractive activities (oil, gas, and mining), such supportive elements are often lacking. In response to these weaknesses, the Bank is and has been involved in reform programs that are aimed at improving the economic policies and institutions associated with the extractive industries in many countries.

Typically, these Bank reform programs consist of several interrelated loan operations that include macroeconomic and multi-sectoral policy reforms as well as institutional reforms. The macroeconomic policy reforms are often supported by structural adjustment and/or sectoral adjustment loans (SAL and SECAL). These structural adjustment operations are often jointly supported and prescribed by an International Monetary Fund (IMF) country program.² Furthermore, adjustment operations are often coupled with complimentary policy and institutional reforms that are usually supported by technical assistance loans (TAL)³ or analytical & advisory activities (AAA) of the Bank. Throughout this report, the term “**structural reform program**” is used to refer to this interrelated program of structural adjustment and policy/institutional reforms.

World Bank structural reform programs supporting extractive industry (EI) development face many challenges. To begin, developing country governments are often faced with budget crises, few options for revenue generation, weak institutions, and pressure from special interests. Given these constraints, oil and mineral dependent countries often suffer from high levels of inefficiency, corruption, and social conflict. Furthermore, the global markets for EI commodities are characterized by a combination of volatile prices and market consolidation. These elements pose major challenges in allowing governments to convert natural resource wealth into broad-based improvements in economic performance and human development.⁴

In recent years, the negative effects surrounding natural resource wealth have been given more attention in international development institutions, mainly framed as issues of governance. An example of this is the World Bank’s Extractive Industries Review – an assessment of the Bank’s role and operations across the mining, oil, and gas sectors – for which this analysis has been conducted. World Bank⁵ and non-Bank studies⁶ alike have raised questions regarding the relative

² It is important to understand the relationship between the World Bank and the IMF. First, World Bank structural adjustment programs often combine an IMF stabilization loan with conditionalities for a longer-term structural adjustment program overseen by both the IMF and the World Bank. Second, the World Bank typically requires a country to have a sound macroeconomic program, often determined by the presence of an IMF program, as a prerequisite for Bank loans. Third, the IMF does not receive nearly as much scrutiny as the World Bank and does not have environmental and social safeguard policies like the Bank.

³ For the extractive industries, these loans are often energy and mining technical assistance loans (EMTAL).

⁴ Numerous empirical studies have confirmed that resource wealth tends to have a negative correlation on economic growth (Sachs and Warner, 2001; Leite and Weidmann, 1999; and Weber-Fahr, 2002).

⁵ OED, 2003; McPhail, 2000; and OED, 2002.

costs and benefits of providing assistance for EI development. Stated clearly, those queries ask whether the economic benefits outweigh the considerable social and environmental costs associated with growth in the extractive sectors.

It is within this broader context of complex interactions, difficult trade-offs, and less than optimal conditions that World Bank structural reform programs aim to improve the economic structures surrounding extractive sectors. While national governments and the private sector are principal actors that influence EI developments, this analysis focuses on the specific policies, activities, and priorities of structural reform programs supported by the World Bank, and to a lesser degree the IMF.

Specifically, the following analysis aims to answer two primary research questions for the World Bank's Extractive Industries Review:

1. Are the World Bank and IMF structural reform programs and related effects in the extractive industries having sustainable development outcomes, i.e., positive or negative effects on poverty, national/local economies, and the environment?
2. Where negative effects are detected, what factors lead well-intended policy and institutional reforms to have unintended negative economic, social, and environmental consequences?

In identifying some of the shortcomings of Bank structural reform lending, the analysis hopes to highlight where improvements could be made in Bank programs so as to increase positive economic, social, and environmental outcomes associated with development of the extractive industries.

The analysis is based on three country case studies in Peru, Tanzania, and Indonesia covering the years of 1990-2002. Each of these countries has undergone World Bank and IMF structural adjustment programs and policy and institutional reforms linked to the development of the extractive sectors. In addition, the extractive sectors of mining and/or hydrocarbons (i.e., oil and natural gas) play a significant role in the economic development strategy of each country.

Research for the analysis consisted of extensive interviews, research in each of the countries, a desk study of existing literature and data, and supplemental research by specialist in the three countries. Interviews included government agencies, mining, oil, and gas companies, World Bank country and Washington-based staff, research institutions, and non-governmental and community-based organizations. Due to the sensitive nature of the research, the identity of individuals interviewed is protected throughout the document. In addition, international and local experts on World Bank structural adjustment and the extractive industries reviewed the analysis for accuracy and to provide additional professional input.

The reader should bear in mind that this assessment was conducted with limited resources over a one-year period. Consequently, many data and important issues, such as gender, have not been covered.

⁶ Asafu-Adjaye, 2001; Campbell, 1997; Chachage, 2001; Easterly, 2001; Gibbon, 1995; Reed, 1992 & 1996; and Reed and Kulindwa, 2001.

Summary of Main Findings and Conclusions

Question 1: Are World Bank structural reform programs and related effects in the extractive industries having sustainable development outcomes, i.e., positive or negative effects on poverty, national/local economies, and the environment?

Main Findings: Under Bank supported structural reform programs, new extractive industry investments were initiated in all of the study countries, with Peru and Tanzania experiencing exceptional growth in the mining sector.⁷ Both mineral exports and government revenues received from these sectors increased. In Peru and Tanzania, growth in the EI sectors could be tied to improvements in macroeconomic performance in the short-term. However, Peru experienced slippage in macroeconomic indicators after the mining investment boom. Furthermore, in some cases the structural reforms appeared to exacerbate macroeconomic imbalances, including: vulnerability to external shocks⁸; declining government revenue ratios⁹; increased economic dependency on primary commodities¹⁰; and significant negative pressure on balance of payments from increased energy imports associated with the mining sector boom¹¹.

In addition, social benefits associated with the expansion of large-scale EI operations were generally in the form of improved infrastructure, including water supply, schools, and hospitals in specific localities near extraction sites. Employment effects have been mixed. Privatization in the petroleum sector reduced employment. Mining sector data for Peru indicated a modest increase in employment. However, small-scale and artisanal mining, which provides the majority of employment opportunities for the poor in the sector, experienced both positive and negative employment effects as a result of reforms. Overall, the EI sectors in these countries did not constitute a significant percentage of employment. Moreover, data are insufficient to determine the net effect of reforms on employment, e.g., how EI growth affects employment in other sectors such as fishing and agriculture.

Furthermore, the Bank generally recognized that the extractive industries in these three countries were associated with negative environmental and social impacts. To address these anticipated outcomes, the Bank designed complementary program measures to help improve the social and environmental performance of these sectors. However, despite these efforts by the Bank, the complementary projects tended to fall short of significant and long-lasting improvements. As a result, growth of the EI sectors considerably outpaced any progress on social and environmental governance.

Overall, the limited impact of the Bank's complementary projects coupled with expansionary measures of structural reforms, resulted in unnecessarily high social and environmental costs. Furthermore, the case studies found no evidence of poverty reduction associated with growth in the EI sectors. The main social and environmental findings of the analysis include:

- No evidence of poverty reduction

⁷ It is also important to keep in mind that some of this growth was due to other factors, for example the increased international market price for gold.

⁸ Associated with significant reliance on EI and fluctuating international EI commodity prices.

⁹ Measured by government revenue as a percentage of GDP.

¹⁰ Measured by percent of manufacturing value added of GDP and growth rates of value added for EI related products in the economy.

¹¹ Largely to support the expanding mining sectors in the Peru case study and to a lesser degree in Tanzania.

- EI revenue seldom transferred to affected communities
- Exploration and production tend to take place in more socially and environmentally sensitive areas
- Increased insecurity surrounding natural resource tenure
- Increased social antagonism and conflict
- Increased overall environmental degradation
- Increased air pollution

As a result of the findings discussed above, the first conclusion of the analysis is the following:

Conclusion 1: Despite efforts by the World Bank to improve the social and environmental performance of the extractive sectors, expansion of these sectors under the aegis of structural reform programs has led to higher than necessary social and environmental costs, and, in some cases, exacerbation of macroeconomic vulnerabilities. The World Bank structural reform programs associated with the extractive industries in the three country case studies did not have sustainable development outcomes.

Question 2: Where negative effects are detected, what factors lead well-intended policy and institutional reforms to have unintended negative economic, social, and environmental consequences?

Main Findings: In some cases, Bank and IMF structural reform programs corrected important market, policy, and institutional failures, such as state monopolies, political interference in price setting, investment barriers, and lacking environmental regulations. However, in all of the study countries significant failures persisted and, moreover, new problems were created by program reforms. As a result, significant extractive industry expansion occurred prior to addressing several important failures that were harmful to the poor, the environment, and the economy.

Overall, the Bank's structural reform programs failed to convey that sustainable development requires not only good economic policies, but strong institutions and good governance as well. This is especially important for the development of the extractive sectors, which are prone to corruption and rent-seeking behavior. The three country case studies revealed three main weaknesses in the Bank's, as well as the IMF's, approach to structural reform programs.

- First, the Bank and IMF supported reforms tended to concentrate on improving policies and institutions in favor of investors, mainly foreign, without commensurately strengthening policies and institutions for the poor and environment and thereby creating an imbalance. For example, new contract models with fixed environmental costs locked in inadequate environmental standards for ten to twenty years. While foreign investment is an essential element for economic development, it is only one of many elements needed to contribute to sustainable development and poverty reduction.
- Second, where the Bank has made efforts to address the policy and institutional failures that have negative effects on the poor and environment, the scope of activities in these complementary programs tends to be too limited. Furthermore, perhaps the biggest constraint to the effectiveness of these programs has been a lack of leverage with governments and/or weak capacity of governments to ensure implementation of World Bank advice.

- Third, although the Bank fully recognizes the limited social and environmental capacity of these countries, the Bank is not questioning the policy and institutional reforms themselves. Current Bank structural reform programs are built on the assumption that foreign investment in EI will lead to broad-based growth and poverty reduction. Furthermore, the EI growth takes place in the context of weak state structures whose role has been redefined through structural reform as one of facilitation and regulation aimed at creating a favorable investment climate. As the Bank's structural reform strategy currently stands, there is a significant imbalance between unleashing market forces that have immediate social and environmental impacts and developing mitigation responses that require long-term institutional development.

The following list provides examples from all of the country case studies of institutional, policy, and market failures that were exacerbated or, in some cases, created by Bank supported reforms:

Institutional Failures:

- Privatization of State owned extractive enterprises without adequately building State capacity to regulate the private sector.
- Absence of a governmental authority to address social and environmental compliance issues that is independent of the institutions in charge of EI sector or investment promotion.
- Significant increase in EI revenue without adequate management, accountability, or transparency.

Policy Failures:

- Preferential tax treatment for the EI sectors
- New EI contract models that lock in inadequate social and environmental standards
- Policy and institutional reforms that are designed for larger-scale enterprises and, in turn, create some disadvantages for small-scale miners¹²
- Commercial land tenure strengthened, while land tenure of the poor remains weak

Market Failures:

- Domestic firms unable to compete with finance terms offered to large foreign enterprises

As a result of the findings discussed above, the second conclusion of the analysis is the following:

Conclusion 2: Unintended negative economic, social, and environmental outcomes of structural reform programs have been due to market, policy, and institutional failures that were either left uncorrected or were created by structural adjustment and policy/institutional reforms. The findings of the case studies draw attention to the need for closer scrutiny of the design of World Bank policies and structural reforms associated with the extractive industries.

¹² The World Bank has in recent years recognized the need to provide more assistance on small-scale mining issues and has created the Communities in Artisanal and Small-scale Mining initiative (CASMI). However, experts following this initiative state that progress is slow and the effort is significantly under funded.

Main Findings (question 2 continued): IMF operations have significant implications for World Bank development objectives. First, as a pre-requisite for World Bank structural adjustment lending a country typically must have an IMF program in place. In one of the case studies, socially- and environmentally-based Bank loans were cancelled due to a lack of progress on IMF structural benchmarks. Second, even though the IMF has no environmental and few social requirements for lending, the Bank operations staff has repeatedly stated that the Bank has no responsibility for assessing the environmental or social impacts of IMF policy prescriptions.¹³

In the case study countries, World Bank collaboration with IMF operations took place mostly at the lead economist level. There was very little, if any, interaction between Fund staff and World Bank sectoral, poverty, or environmental specialists. Furthermore, the IMF's approach to the extractive sectors was mainly one that promoted aggressive privatization of significant mining and hydrocarbon assets for short-term financing of the deficit. Such an objective did not ensure the creation of competition, efficiency gains, development of a domestic private sector, or environmentally and socially sound development strategies for the extractive sectors.

As a result of the findings discussed above, the third conclusion of the analysis is the following:

Conclusion 3: The World Bank's collaboration with the IMF on structural adjustment programs associated with the extractive industries has been ineffective with regards to social and environmental development objectives.

Summary of Recommendations

In light of the conclusions drawn from the three case studies, the following six recommendations are offered to the World Bank to improve the outcomes of structural adjustment and other policy lending associated with the extractive industries:

1. Strategic Social and Environmental Analysis of Policy Lending – The World Bank's updated operational policy on structural adjustment (OP 8.60) should require upstream social and environmental analysis of policy lending (SAL, SECAL, TA, and AAA)¹⁴ for countries where EI development is likely to or is intended to occur as a result of structural reform programs. The main objective is to ensure that socially and environmentally appropriate incentives and disincentives for the private EI sector are built into structural adjustment.¹⁵

2. Social and Environmental Accountability of Investment Liberalization and Privatization – The World Bank should establish mechanisms and standards for EI investment approval processes, sector codes, and private sector contract models that ensure local community benefits & rights, and environmental protection.¹⁶ Furthermore, Bank assistance for investment

¹³ Even though, according to the framework for World Bank-Fund collaboration, the World Bank is the lead agency responsible for environmental policy areas.

¹⁴ Structural Adjustment Loan (SAL), Sectoral Adjustment Loan (SECAL), Technical Assistance (TA), and Analytical and Advisory Activities (AAA).

¹⁵ The current analysis could be used to provide initial guidance to Bank staff.

¹⁶ Special attention needs to be given to the use of "stability agreements" that at times lock in inadequate environmental and social standards. Further work is needed to develop guidance on socially and environmentally appropriate codes and contract models for the extractive industries.

liberalization and privatization should include specific activities to enhance domestic private sector opportunities, such as access to finance and markets and formalization of small-scale and artisanal mining.

3. Government Capacity for the Poor and Environment – In countries anticipating development of the extractive sectors, the World Bank should place priority on building government capacity to ensure that EI development benefits the poor and improves environmental protection. This will require assessing and strengthening revenue distribution policies and mechanisms, improving the capacity of EI-independent regulatory agencies, and establishing mechanisms for informed stakeholder participation. Furthermore, the Bank should ensure that central and local government agencies have clear social development and environmental protection mandates associated with EI development.

4. More Value Added to the Economy – When EI development is promoted, World Bank lending should support policy and institutional reforms that ensure EI resource rents are used to stimulate more value-added and labor intensive sectors. Conventional wisdom asserts that drawing down natural resource assets is appropriate to the degree that they are converted into other forms of capital, be it productive, human, or financial, which can increase a country's productivity over time. The Bank should provide guidance and assistance on how a country can utilize EI to stimulate other sectors of the economy and, thereby, move beyond mainly using EI to increase exports.¹⁷

5. Strengthened Collaboration between Bank and IMF Operations - The World Bank should enhance social and environmental accountability and collaboration between World Bank and IMF lending operations especially in countries with significant extractive industries. To begin with, the Bank should institute a monitoring mechanism of governance, social/poverty, and environmental management indicators to complement the IMF's macroeconomic monitoring.

6. Strengthened Civil Society – The World Bank should establish clear guidelines and mechanisms that ensure substantive and sustained interaction among national government agencies, civil society organizations (CSO), and the World Bank. Bank guidelines should provide social and environmental performance criteria by which CSOs can monitor the impacts of structural reform. Furthermore, the guidelines should identify the specific stages in the reform program cycle and the mechanisms whereby the Bank receives feedback from civil society. Lastly, the World Bank should revise program activities in response to the CSO monitoring feedback.

Organization of the Document

The rest of the document is organized in the following manner. The main body of the report contains the three country case studies: Peru, Tanzania, and Indonesia. Each case study has five sections. Section one provides the country context. Section two describes the World Bank and IMF structural reform program as it relates to the extractive industries. Section three discusses the economic, social, and environmental effects. Section four identifies the corrected, persisting, and created market, policy, and institutional failures associated with the structural reform

¹⁷ For example, the Bank should provide guidance on how a country can move beyond primary production, e.g., mining and smelting, and into activities of refining and fabrication of products that capture more value-added.

program. Lastly, section five provides a summary of the given country case. The document ends with a summary of the main findings and a discussion of recommendations.

PERU

1. Country Context

Peru is a lower middle-income country with a per capita income in the year 2000 of \$2,100 (OED, 2002). Peru's economy is highly resource extractive, primarily mining- and fishing-based. The country is rich in mineral resources and is Latin America's leading gold producer and the world's 5th largest copper producer (*New York Times*, 2002). Although Peru is rich in minerals, many of its people are poor. More than half of Peru's 26 million people live on \$1.25 or less a day.

From the time the Incan empire fell in the 1530s, Peru has been integrated into the world capitalist economy through the extraction of natural resource wealth. While gold and silver initially provided the mercantile link to colonial powers on the Iberian Peninsula, European countries returned time and again to Peru to fuel their domestic growth. Peruvian *guano*, then nitrates provided fertilizer for European agriculture in the 1870s. British railroads, constructed in the 1880s, carried wool from the Andes to British ships bound for the centers of the world's textile industry.

From 1900 onward, export of sugar, fish meal, and cotton, as well as copper, nickel, petroleum and natural gas fueled industrial growth and diversification in North America. Export revenues in various periods of Peruvian history became the principal source of government income. Regaining control over natural resource wealth was also the principal cause of the national revolution that transformed the country in 1968. The role of natural resource wealth in shaping the country's development remains as important today as during the past 5 centuries.

In 1989, Peru's economy started to rapidly decline. The Central Bank was left dealing with the consequences of several years of overextending credit to the agricultural sector and state-owned enterprises (Yergin, 1998). By 1990, Peru was faced with a high fiscal deficit and a GDP growth rate of less than 1 percent. Terrorism was widespread and investment, especially in the extractive industries, stagnated. The state-owned petroleum company was US \$2.5 billion in debt and the sector suffered from severe maintenance neglect (ESMAP, 1999). Oil production was declining and oil imports were increasing. The poverty rate was at 55 percent and social expenditure fell to 27 percent of its 1986 level (Yergin, 1998). Furthermore, the environment was significantly degraded due to years of uncontrolled industrial and mining discharges polluting the water resources and rural cultivation of coca destroying the forests (Yergin, 1998).

Soon after Fujimori took office in 1990, the World Bank and IMF designed a joint development strategy for Peru consisting primarily of macroeconomic stabilization measures and structural reforms. President Fujimori decided to enact what came to be known as the "Fujishock" program that focused on debt servicing, attracting foreign investment, combating terrorism, and returning Peru to the world financial markets.

In this context, the Peru case study is organized as follows: Section 2 describes the World Bank and IMF's involvement in the structural reform program of Peru and how it relates to the extractive industries (EI). Section 3 assesses the associated economic, social, and environmental effects, and Section 4 analyzes the role of market, policy, and institutional failures.

2. World Bank and IMF Engagement in Peru

The World Bank and IMF have been significantly engaged in the structural reform program of Peru, which began in the early 1990's.¹⁸ From 1990-2000, net disbursements from the Bank totaled more than \$1.5 billion, accounting for 9% of all net external financial flows to Peru during this period (OED, 2002).¹⁹ These Bank disbursements were dominated by adjustment loans, which accounted for nearly two-thirds of Bank lending for FY92-00.

Table 2.1 provides a summary of World Bank IBRD/IDA lending and objectives of particular significance to the extractive industries from 1976 to 1998. In addition, the Bank's private sector lending arm, the International Finance Corporation (IFC), co-financed several significant EI projects in Peru (Antamina, Yanacocha, Minera Regina, and Buenaventura). Furthermore, in 2001 mining operations comprised forty percent of the Bank's Multilateral Investment Guarantee Agency's (MIGA) Peru portfolio (World Bank, 2001).

Throughout most of the 1990's, the World Bank's stated overall objective for Peru's structural reform program was to promote competition and facilitate private investment. In addition, the IMF stressed the program's aim to eliminate price controls and subsidies, and streamline regulatory regimes across most sectors, including mining and hydrocarbons. Towards the end of the 1990's, the strategy added emphasis on employment creation and improving access to basic social services (World Bank, 2001; IMF 2001).

In the initial years of the structural reform program (mid-1990's), Peru's macroeconomic parameters were fairly stable and GDP growth was positive. However, during the late 1990's, Peru experienced a series of exogenous shocks stemming from El Niño, falling mineral prices, and the Asian & Brazil financial crises. Adding to the problems of the economic downturn, Peru experienced political upheaval with the resignation of President Fujimori in November 2000 leaving an interim government at the helm until July 2001.

By the time the economic downturn hit Peru, the Bank had shifted its lending focus away from the structural adjustment and reforms in the extractive industries.²⁰ By 2000, the Bank had no more involvement in the mining and hydrocarbon sectors and assistance concentrated primarily on social budget targeting and social infrastructure investments.²¹

¹⁸ A number of individuals interviewed for an OED (2002) evaluation of Bank programs in Peru mentioned a meeting in January 1991 in New York City between President Fujimori and the heads of the Bank, IMF, IDB, and UN. These individuals believed that this meeting was "crucial" in convincing the Peruvian president of the need for a "radical stabilization and liberalization program" that Fujimori eventually implemented.

¹⁹ It is recognized that the Bank was and is not the only player in Peru as there are other significant donors including: IDB 11%; major bilaterals (with one third official and two thirds private capital) U.S. 31%, Spain 17%, Italy 10%, and Japan 12%.

²⁰ This was in part due to the availability of private lending in the EI sector to replace the Bank as a "lender of last resort."

²¹ Lending Program FY01: Rural Roads Rehabilitation II (US\$60 mil.) and Programmatic Social Reform Loan (PSRL) (US\$100 mil.) – safeguard priority social programs during political transition. Lending Program FY02: National Rural Water Supply and Health Sanitation (US\$50 mil.); Rural Education and Rural Resources Project (US\$30 mil.); PSRL II (US\$100 mil.); and Transport Rehabilitation II (US\$80 mil.).

Table 2.1 Selected World Bank Loan Operations in Peru (1976 – 1998)

Loan Name	Sector	Timeframe & Funding	Primary Objectives
Centromin Expansion Project	Mineral Resources & Mining	1976 – 1982 \$40 million	Expand underground mine production of Cobriza copper mine. Construction of new concentrator and mine water treatment plant.
Petroleum Production Rehabilitation Project	Mineral Resources & Mining: Oil and Gas Exploration and Development	1980 – 1985 \$32.4 million	Increase Peru's oil production. Rehabilitate PETROPERU wells on the coast and in the jungle. Undertake seismic surveys in the jungle. Strengthen PETROPERU financially and technically. Study overall petroleum sector investment requirements and domestic pricing policies.
Petroleum Production Enhancement Project	Mineral Resources & Mining	1982 – n.a. \$81.2 million	Increase proven oil reserves and production at PETROPERU's Laguna-Zapotal fields. Improve capacity to prepare and implement petroleum development projects.
Petroleum Refineries Engineering Project	Mineral Resources & Mining	1982 – 1987 \$5.3 million	No information available.
Bayovar Phosphate Engineering and Tech. Assistance Project	Mining	~1982 - n.a. \$7.5 million	No information available.
Structural Adjustment Loan	Multiple	1992 – 1993 \$150 million	New policies and legal/regulatory/institutional reforms to promote competition and facilitate private investment.
Trade Policy Reform Loan Project	Multiple	1992 – 1993 \$300 million	Improve international competitiveness and attractiveness to foreign direct investment through liberalization of foreign trade regime.
Privatization Adjustment Loan	Mineral Resources & Mining	1993 – 1998 \$250 million	Program to de-monopolize and privatize state owned enterprises (SOEs) in the mining and energy sectors.
Energy & Mining Technical Assistance Loan	Oil, Gas, and Mining	1993 – 1998 \$11.8 million	Assist in developing a new regulatory framework for the oil/gas sector of Peru and propose a set of modern industry regulations.

Source: World Bank, various Public Information Documents (PIDs) and OED evaluations.

During the late 1990's to early 2000's, IMF Stand-By-Arrangements for Peru intensified the structural reform program that was previously spearheaded by the Bank. The IMF also continued the emphasis on EI privatizations (GoP, April 1999).

The Bank and IMF reinforced each other's lending operations by linking funding to progress indicators of both institutions' programs. On the World Bank side, for example, the 1994 Country Assistance Strategy (CAS) for Peru established specific triggers that would lower the level of Bank lending if there were deterioration in macroeconomic policy or structural reforms supported by the IMF program.

In the late 1990s early 2000s, when the Bank's loans predominantly focused on poverty related programs, the Bank remained tied to the IMF program and its linkages to EI. For instance, the Bank's 1998-00 CAS (World Bank, 2001) required that the Bank drop its second Poverty Reduction Support Loan (PRSL) if Peru failed to comply with the IMF's Stand-by-Arrangement, which had several structural benchmarks linked to major mining and hydrocarbon assets, as illustrated in Table 2.2. Most notable of these benchmarks is the Camisea natural gas project,

which was recently denied financing from the US Export-Import Bank for downstream operations due to violations of environmental and social standards.²²

In addition, it is important to note that the IMF included a target to maintain the level of social spending in the government budget as a structural benchmark for the 1999 Peru program (GoP, 1999).

Although the Bank and IMF programs were formally tied to one another as described, Bank in-country staff stated that they were unfamiliar with IMF operations in the country and they did not generally consider any connections between the two institutions' activities.²³ Furthermore, the IMF did not typically collaborate with Bank staff on IMF program details or conditionalities.

Table 2.2 IMF Peru Structural Program Benchmarks for the Extractive Sectors: Privatization and Concession Program		
<u>1999 Program</u>	<u>2001 Program</u>	<u>2002 Program</u>
<ul style="list-style-type: none"> • Open bidding process for Camisea natural gas project. • Bring one public enterprise in the mining sector to the point of sale. • Award concessions for mining exploration of 3 fields. • Award contract on Camisea natural gas project. • Sale of remaining shares in privatized enterprises in the energy sector. 	<p>Sale of shares in enterprises previously privatized:</p> <p>Hydrocarbons</p> <ul style="list-style-type: none"> • Relapasa Refinery <p>Mining</p> <ul style="list-style-type: none"> • Iscaycruz (zinc/lead) <p>Mining Prospects:</p> <ul style="list-style-type: none"> • Toromocho (copper) • Michiquillay (copper) • Alto Chicama (gold) • Yauricocha <p>Concessions:</p> <ul style="list-style-type: none"> • Bayovar (Phosphate Mining) 	<p>Concessions:</p> <ul style="list-style-type: none"> • Bayovar (Phosphate Mining)

Sources: Government of Peru, 1999; 2001; & 2002

The rest of the section lays out the various reforms adopted by the Government of Peru from 1990-2002 under the World Bank and IMF structural reform programs.

2.1 Trade and Investment Liberalization

In 1990, the Bank and IMF both considered Peru to have economic policies that were relatively unfriendly to foreign investors. To reverse this position, the Bank- and IMF-supported trade and investment liberalization both aimed to open Peru's economy as to improve "international competitiveness and attractiveness to foreign direct investment."

²² Upstream operations received approval for IDB funding.

²³ Interview between the author and World Bank Peru country office staff, August 2002.

In order to liberalize Peru's trade regime, the reform program called for Peru to unify import tariffs at or below 15 percent (World Bank, 2001). In addition, to encourage exports from the hydrocarbon and mining sectors, the GoP provided a value added tax (VAT) exemption for both imported and locally purchased goods and services, including construction contracts, of companies exploring for oil, gas, or minerals. The exempted VAT is an 18 percent tax in Peru and represents a significant revenue generating tax for the government.

It is worth noting that there is a split between the World Bank and IMF regarding the VAT exemption for the extractive industries in Peru. The Bank supports and encourages countries to implement such an exemption (World Bank, 1996). The Bank's reasoning is two fold. First, the VAT tax on inputs for exporters is considered to represent double taxing and, thus, should be refundable. Second, many countries do not have efficient refunding mechanisms to expeditiously process refunds for the export sectors and, therefore, the Bank supports the use of a VAT exemption to streamline the process. However, the IMF does not support such a view and tends to think of the VAT exemption as preferential tax treatment. As such, the IMF did not support the hydrocarbon and mining VAT exemption in Peru.

Coupled with the trade regime, the investment framework also underwent liberalization measures including:

- Elimination of all restrictions on remittances of profits, royalties, and capital.
- Streamlined licensing procedures, including
 - no authorization or prior registry is required for foreign investments;
 - no performance requirements for foreign investments²⁴; and
 - shortened registration procedures, i.e., registration of a new company now takes about one month, as opposed to two years under the previous regime.²⁵
- Equal access to local financing for foreigners, i.e., treated the same as Peruvian nationals.²⁶
- Creation of a new government Commission for Promotion of Private Investments (COPRI).
- Foreign and national investors are offered juridical stability agreements guaranteeing the application of current statutes on taxes, labor matters, environmental regulations, and other regulations applicable to specific investments for ten years.²⁷

2.2 Privatization and Concessions Program

One of the primary aims of the Bank- and IMF-supported structural reform program in Peru was to eliminate political interference in price setting, and thereby allow market demand set prices. In order to eliminate the political interference, the Bank and IMF believed that the state's role in the economy needed to be redefined. As such, the reform program called for the state to transfer all productive and commercial activities to the private sector. Central to this transformation was the privatization of Peru's major state-owned enterprises (SOEs).

In addition to the primary objective of using market competition to set prices, privatization was expected to promote increased foreign investment through. This was also in line with the spirit of

²⁴ It is the authors understanding that, for example, a company does not have to prove financial solvency or technical capacity, but would have to comply with national laws and regulations.

²⁵ US State Department, 1994.

²⁶ US State Department, 1994.

²⁷ US State Department, 1994.

investment liberalization. In the late 1990's the IMF emphasized the acceleration of SOE asset sales to finance Peru's budget deficit (GoP, 2002a).

Several reforms were implemented to promote the privatizations program including: new legislation, a new Private Investment Promotion Program (PIPP), and a new government agency to manage and promote the process called the Commission for Promotion of Private Investment (COPRI). Under a new Law for the Promotion of Private Investments, state assets were to be sold through an open public process, either as a sale of shares in the stock exchange or through a public bidding process. In addition, as part of the investment promotion initiative investors were offered protection from liability for acquiring SOE's (State Department, 1994). This meant that the government, i.e. the tax payers, took responsibility for prior debts of SOE's.

The World Bank's support for the privatization program singled out the hydrocarbon and mining sectors above all other sectors. From 1993 to 1998, the World Bank extended a US\$250 million Privatization Adjustment Loan (PAL) that centered on the process to de-monopolize and privatize SOEs in the oil, natural gas, and mining sectors. In addition to selling existing enterprises, the program also awarded new mining and hydrocarbon concessions to the private sector in order to promote further exploration and development of Peruvian extractive resources.

The World Bank Energy and Mining Technical Assistance Loan (EMTAL) from 1993 to 1998 was designed to reinforce the EI sector reforms pursued through the PAL. In fact, the PAL operation was conditioned on further "complementary" EI sector reforms of the EMTAL (World Bank, 1999). The interrelated policy and institutional reforms supported by the PAL and EMTAL are described in the next two sections, Hydrocarbon Sector Reform and Mining Sector Reform.

2.3 Hydrocarbon Sector Reform

According to several World Bank documents (OED, 2002; World Bank 2001; ESMAP, 1999) the transformation of the Peruvian hydrocarbon sector that took place in the 1990s is "one of the most radical reform processes that has taken place in all of Latin America towards open market economies." As this section illustrates, the World Bank's structural adjustment and technical assistance lending operations played a significant role in this "radical" transformation of Peru's hydrocarbon sector.

Before the initiation of the structural reform program, Peru's hydrocarbon sector was headed by the state petroleum entity called Petroperu. Petroperu was considered by the Bank to have monopolistic control over the petroleum industry in Peru. In 1990, Petroperu controlled approximately 49 percent of national crude oil output, while the other 51 percent was produced by private companies²⁸ (ESMAP, 1999). Table 2.3 lists the major assets controlled by Petroperu. In the late 1980's, Petroperu had accumulated US\$ 2.5 billion in debt, had deferred equipment maintenance, and had lost its credit rating. In addition, investments in the hydrocarbons sector were at historically low levels, which led to a decline in oil production and a corresponding increase in oil imports (ESMAP, 1999).

²⁸ Mainly, Occidental in the Amazonian Forest and Consorcio OXY-Bridas in the Talara Basin.

Table 2.3 Core Assets of Petroperu (1990)

- Production - 49 percent, mainly in the Talara Basin (onshore and offshore) and the Amazon (Blocks #8 and #31)
- Trans-Andean Pipeline – transport of both Petroperu and Occidental’s Amazon blocks to the Pacific coast
- Six Refineries – two large ones, Talara and La Pampilla, and four minor ones
- Twenty-three Distribution Plants – mainly the coastal terminals
- Eighty-five Gasoline Stations²⁹

Source: ESMAP, 1999

Under these deteriorating conditions and considering the valuable assets involved, one of the chief objectives of the Bank and IMF structural reform program was to downsize and dismantle Petroperu operations, deregulate hydrocarbon price policy, and ultimately privatize Petroperu’s assets. Overall, the World Bank-supported restructuring plan for Petroperu and the hydrocarbon sector in general included the following six main objectives (ESMAP, 1999):

1. Reduce political intervention in commercial matters
2. Reduce excess personnel
3. Correct price distortions
4. Close entities operating at a financial loss – mainly the fertilizer and petrochemical operations
5. Do minimal rehabilitation and delayed maintenance works for SOEs; and
6. Deliver good signals to private investors, including:
 - privatization of gasoline retail stations;
 - negotiation for the development of the natural gas reserves of Aguaytia;
 - improvement of the exploration and contract model; and
 - provision of consistent solutions to recurrent problems in the sector, i.e., commercial dispute resolution.³⁰

The rest of this section explains the new legal, regulatory, and institutional frameworks that the Government of Peru implemented in order to obtain these Bank-supported objectives. Furthermore, the activities described herein were executed largely through support from the Bank’s PAL and EMTAL lending operations.

To begin, in 1993 a new institution called Perupetro was created to replace Petroperu and became in charge of the administration of the Peruvian hydrocarbon resources. Unlike the old national oil company, it was given no operational functions. The new institution was charged with promoting the “acreage” of the sector, negotiating new contracts with the private sector, and administering new exploration and production contracts (ESMAP, 1999). Keeping with the thrust to have a slimmed down government role in the sector, the new institution came with a new law that set limits on the number of allowable employees. As part of the new Perupetro, a special committee (CEPRI) was established to promote the sale of the operations that were formerly under the control of Petroperu (GoP, 1998a). Eventually, a second Commission for the Promotion of

²⁹ Before reform of the sector, in addition to the state-owned stations there were already 20 stations operated by private concessionaires.

³⁰ The suggestion for consistent solutions stemmed from the expropriation case of the Belco Petroleum Co., an ENRON-owned enterprise.

Private Concessions (Promcepri) was created to evaluate and award new concessions for production and distribution of petroleum and electricity.

Also in 1993, President Fujimori passed the new Hydrocarbons Law as the legal apparatus for reforming the sector. The new law provided measures that liberalized the trade and investment framework for hydrocarbons and significantly streamlined the investment process. The main elements of the new law chiefly follow the Bank-supported objectives above and include: 1. hydrocarbon resources in the ground belong to the state, but once extracted, belong to the producer; 2. free disposal of hydrocarbons produced, and free import/export of crude oil and products; 3. prices set by supply and demand forces; and 4. an end to the Petroperu monopoly and free entrance of private companies to any activity of the oil and gas supply chain (ESMAP, 1999).

In addition, the GoP instituted a new, investor friendly exploration and production contract model. The main changes in the new contract model consisted of the following (ESMAP, 1999):

- Longer contract terms providing 7 years for exploration, 30 years for oil developments and 40 years for gas developments;
- No maximum size limits for contracted areas;
- Revenues based on production valued at international prices³¹; and
- Shorter and simplified contract procedures.

Under the previous legal contract regime, a draft contract, once negotiated with Petroperu, required the approval from seven institutions, within four government agencies, including: Ministry of Economy, Ministry of Energy and Mines, Ministry of Defense, and the Central Bank. Under the new shorter and simplified contract procedures, approval is now required from only three institutions within three government agencies: the Ministry of Economy, Ministry of Energy & Mines, and the Central Bank (US State Department, 1994).

With the new law, environmental matters were also brought under the fold of the investment streamlining process. Mainly, the law dictated that the approval of environmental impact assessments (EIA) for investments would be the responsibility of the Ministry of Energy and Mines (MEM). In addition, in efforts to improve environmental performance of the sector, the Hydrocarbons Law included a clause requiring existing operations, including those being privatized, to develop an environmental management plan or PAMA (*Programa de Adecuación y Manejo Ambiental*). The approval of the PAMA also came under the responsibility of MEM.³²

In developing a new regulatory framework for the oil and gas sector, the World Bank's EMTAL project provided support for (World Bank, 1999):

- Drafting of regulations to compliment the 1993 Hydrocarbons Law;
- Setting up an initial Perupetro database for organizing and storing available geological information for oil exploration investors; and
- Strengthening of the Hydrocarbons directorate of MEM through an institutional study.

³¹ Estimated by using a contractually agreed crude oils basket.

³² Specifically, the Dirección General de Hidrocarburos (DGH) within MEM is responsible for receiving the Environmental Impact studies. The DGH in coordination with the Dirección General de Asuntos Ambientales (DGAA) [Director General of Environmental Affairs] within MEM verifies the adequacy of proposed Environmental Management Plans. The DGH is responsible for public input and grants final authorization for starting hydrocarbon projects. In 1996, enforcement of compliance with commitments made in the EIA and PAMA was transferred to the OSINERG (Organismo Supervisor de la Inversión en el Sector Energía) within MEM. However, in 1998 OSINERG was transferred to the Ministry of Economy and Finance (MEF).

In addition, the EMTAL project indicated several regulation gaps or areas requiring updated regulations for the Government of Peru to follow-up on, including (ESMAP, 1999):

- List of goods and materials for import tax exemption to be included in exploration contracts
- Guarantee of fiscal stability and taxation norms [i.e. stabilization agreement]
- Royalties and retribution in petroleum contracts
- Qualification of petroleum companies³³
- Hydrocarbon exploration and exploitation activities
- Commercialization of hydrocarbon liquid fuels
- Safety in retail stations selling hydrocarbon liquid fuels
- Distribution of hydrocarbons by pipelines
- Environmental protection associated with hydrocarbon activities
- Standards for refineries and hydrocarbons processing
- Safety in hydrocarbons storage, installations, and transport

Of this list, the GoP followed up on the first three. First, as mentioned above, the GoP established the inputs for both hydrocarbons and mining that receive a VAT exemption. Second, investors are offered stabilization agreements guaranteeing laws, taxation, and environmental regulations for ten years. Third, the petroleum royalty scheme has been reformed. Previously royalties were calculated based on a scale ranging from 15 to 35 percent. The royalty scheme is now based on a reduced range of 5 to 20 percent (InfoProd, 2003). It should be noted that due to a lack of available information, several of the identified regulation gaps remain difficult to determine what, if any, government action was taken to address the issue. However, it has been determined that several important safety and environmental regulation gaps continue to be un-addressed. These are explained in Section 3: Market, Policy, and Institutional Failures.

In addition to the mainly Bank-led reforms, as shown previously in Table 2.2 above, hydrocarbon assets were prominent requirements included in the IMF program structural benchmarks from 1999 to 2002. During the interim government period of 2000-2001, the IMF continued to push forward with these structural benchmarks, notably the Camisea natural gas concession, which was an unmet benchmark leftover from 1999. By the first half of 2001, the interim government followed through on the IMF request and awarded Camisea, which is Latin America's largest natural gas deposit (GoP, 2002a). The IMF and Bank had encouraged the prompt development of Camisea both for foreign revenue generation and based on the expectation that Camisea would substantially decrease the high energy costs in Peru and, thereby, make investment conditions more attractive to foreigners across economic sectors (IMF, 2001; ESMAP, 1999).

2.4 Mining Sector Reform

Reform of the mining sector mirrored that of the hydrocarbon sector in many ways including an aggressive privatizations program of which the management, including approval of EIA and PAMAs, also came under the responsibility of the Ministry of Energy and Mines. As for hydrocarbons, the IMF repeatedly attached the sale of state mining assets as structural benchmarks for continued lending (GoP, 1998a&b; GoP, 1999; GoP, 2002a&b). In addition to the benchmarks listed in Table 2.2, IMF letters of intent from the GoP specified further expectations to keep pushing forward on privatizing the mining sector, including the sale of all

³³ This seems in conflict with investment liberalization reforms, which specified no pre-qualifications for investors.

remaining public mining enterprises and the awarding of concessions for exploration in at least eleven mining fields of Centromin and Mineroperu (GoP 1999).

Just as in the hydrocarbons sector, mining investors were also offered stabilization agreements guaranteeing specified tax, labor, and environmental regulations for ten to fifteen years. The stabilization agreements are offered only to larger scale investments, i.e., US\$ 10 million and greater (UNCTAD, 2000). In an effort to promote further foreign investment in the mining sector during the economic downturn of 1998-2000, President Toledo decided to offer a special stabilization agreement that made 80 percent of mining profits tax-free for 15 years. This offer stipulated that the tax-free status was conditioned upon reinvestment in Peru.

Under the reform program, larger-scale mining investments were offered the following protections and incentives (UNCTAD, 2000):

All investors:

- Corporate tax only on distributed profits
- Tax deductible - cost of infrastructure utilized as “public utility”
- Tax exemption on income from infrastructure of public utility
- Immediate deductible for exploration expense during production

Investment in new capacity of at least US \$10 million:

- All benefits listed above
- Free disposal of export proceeds and guaranteed access to foreign currency
- Legal stability of project taxes granted for 10 years

Investment in new capacity of at least 5,000 MT/Day:

- All benefits listed above stabilized for 15 years

Investment of at least US \$20 million, and acquisition investment of at least US \$50 million:

- All benefits listed above
- Accelerated depreciation of 20% p.a. for machinery, equipment and other fixed assets, and 5% for building
- US dollar accounting

Another reform in the mining sector, but not echoed in the petroleum sector, was the elimination of all royalties on mineral production (World Bank, 1996). Peru’s elimination of royalties, VAT exemption, and stabilization agreements were all heralded as characteristics for a successful mining investment regime in the Bank’s Mining Strategy for Latin America and the Caribbean (1996).

As stated previously, the IMF did not share the Bank’s enthusiasm for the tax incentives provided to the extractive industries. As such, starting in 1999 the IMF program included technical assistance to enhance the efficiency and equity of the tax system, including: a provision requesting no further granting of sectoral or regional tax preferences or exemptions; a specific audit of the mining sector; and an examination of tax exemptions recently enacted under the Amazon Law (GoP, 1999). In 2002, the IMF mission to Peru recommended a redesign of taxation in the mining sector (GoP, 2002b). With support from the IDB, the GoP was expected to eventually re-introduce a system of mining royalties (GoP, 2002b).

In addition, the Bank reports that the following activities were executed under the mining component of the Bank's EMTAL (World Bank, 1999):

Mining Sector Investment Promotion Components

- Compilation and dissemination of information related to investment opportunities;
- Initiation of a mining promotion program headed by the Institute of Mining Engineers of Peru;
- Initial compilation and database design for a mining information system; and
- Modernization of the cadastral system to improve the efficiency of commercial mining rights administration.

Mining Sector Environmental and Social Components

- Provision of educational materials for small-scale miners;
- Analysis of problems facing small-scale miners;
- Draft and dissemination of some environmental regulations, including some maximum emissions levels and operating guidelines;
- Development of an environmental plan as a framework for follow-up activities;
- Support for environmental assessments in 14 mining areas, in particular those where informal mining is prevalent;
- Implementation of an air quality monitoring program in areas where mining activities predominate;
- Evaluation of environmental mitigation programs; and
- Strengthening of the General Directorate for Environmental Affairs of the Ministry of Energy and Mines through training and the development of information systems and procedures.

3. Development Outcomes

As previously stated, the World Bank's mission is to produce development outcomes that contribute to poverty reduction and sustainable development (i.e., economic, social, and environmental sustainability). In determining the effects resulting from structural adjustment, the Bank often relies on assumptions about the impact of reforms on economic growth. However, the shortcoming of such an approach is that positive achievements in aggregate economic growth can at times hide failures that take place with regards to social and environmental objectives. For example, to grasp poverty effects it is important to understand the common reasons for falling into and for escaping poverty, such as employment opportunities, illness, access to natural resources, access to social services, and vulnerability to shocks (both economic and environmental).

This section explores various indicators, observations, and data for Peru, including parameters of economic growth as well as indicators more directly tied to poverty and the environment.

In the post reform period, Peru experienced a boom in mining investment and production and a modest revitalization of hydrocarbon investment. Mineral exports increased significantly and macroeconomic performance indicators improved. Even so, Peru's economy became more vulnerable to external shocks and more dependent on primary commodities. In the late 1990s, economic indicators started experiencing slippage. Furthermore, Peru had one of the lowest

levels in Latin America of tax revenue, which had negatively affected social spending. The mining sector showed modest gains in employment, while the petroleum sector decreased in employment. Most notably, EI growth did not reduce poverty and social unrest increased. In addition, EI growth outpaced program efforts to improve environmental management and EI operations moved to more socially and environmentally sensitive areas. Thus, environmental degradation from mining and hydrocarbon operations remains a significant problem in Peru.

3.1 Investment and Production in the Extractive Industries

During the 1990s, Peru experienced a boom in investment into the mining sector and to a lesser extent a revitalization of investment in the hydrocarbons sector. As of June 2000, there was US\$ 3.7 billion in investment committed to the mining sector (Centromin/Minero Peru, 2000). This increase in investment can be contributed to a combination of elements including: macroeconomic reforms involving the promotion of investment (e.g., elimination of restrictions on foreign exchange); sectoral adjustments (e.g., especially the privatization promotion and regulatory changes); international market conditions (e.g., high mineral commodity prices and high demand in growing Asian economies); and, perhaps above all, the restoration of security (e.g. clamping down on terrorism which affected many mining areas).

As would be expected, the boom in mining investment was followed by a significant increase in mineral production. From 1991 – 2000, total production increased for copper by 53%, for zinc by 44%, and for gold by 83% (Ministry of Energy and Mines, 2000). Furthermore, over half of the targeted 4% growth in GDP for 2003 is expected to come from mining – two-thirds of this growth from the Antamina mine alone. However, this projection may be too optimistic given that due to the lowest spot prices for zinc in 14 years, Antamina has slashed its earnings projections for 2003 by US\$ 49 million (Latin Focus, 2003). This represents a drop from \$63 to only \$14 million.

Turning to performance in the hydrocarbons sector, the early 1990s slow down in petroleum production was largely blamed on poor hydrocarbon exploration activities. Thus, as described in Section 2, structural reforms were specifically designed to reverse this declining trend and promote expanded exploration. Table 3.1 provides data showing that under the structural reform program the number of companies and investment involved in upstream operations increased substantially.

Table 3.1 Hydrocarbon Sector Upstream Results and Projections

Year	1990	1997	1998-07 ^c
Number of contracted blocks	4	41	
Acreage under operation (mil. ha.)	1.10	23.01	
Investment committed (mil. US\$)	19.95	4,300	3,500
Number of wells (exploratory/development)	4 / 52	10 / 92	143 / NA

Source: ESMAP, 1999; e = estimate

By the end of 1998, there were a total of 50 new companies contracted in new areas for petroleum exploration and exploitation rights (World Bank, 1999). However, as of 2000 these new exploration contracts had not yet translated into increased crude oil production for Peru (MEM, 2002). In addition, the Talara basin experienced problems of continued production declines and delayed investments due to dropping oil prices (ESMAP, 1999). Also starting in 1998, there was a substantial decline in output from the long-time privately held Occidental Block 1AB (ESMAP, 1999).

Although production increases did not materialize for crude oil, natural gas did experience significant increases (MEM, 2002). This was mainly due to the new development of Aguaytia with an estimated production of 55 million metric cubic feet per day (mmcf) of gas and 4.2 million barrels per day (mbd) of condensates. Furthermore, natural gas production will substantially increase with the coming on line in 2004 of the Camisea project with an estimated 200 mmcf of gas and ~100 mbd of condensates (DOE-EIA, 2001).

3.2 General Macroeconomic Indicators

Given that the mining sector accounts for 50 percent of exports, more than five percent of GDP, and is also expected to account for 50 percent of 2003 GDP growth, the significance of the extractive industries to the macro-economy cannot be over stated. Thus, it is relevant for this analysis to consider various macro level performance indicators during the structural reform program.

From 1991- 2000, the Bank and IMF documents state that Peru made very good progress in stabilizing the economy. Inflation remained in check and international reserves were at comfortable levels. However, slippage in macroeconomic performance began to happen in 1997 when the government budget went from balanced to a deficit. In 2000, the deficit was at 3.2% of GDP, which is above the limit of 2% established under the IMF program and under the new law on fiscal responsibility. However, it is worth noting that during 2002/03 many developed nations, including the US, France, Germany, and Spain were also above this 3% benchmark.

Mixed Macro Results – Reviewing various macroeconomic indicators gives a mixed picture on Peru’s overall performance during the course of the structural reform program from 1991-2002. According to IMF documents, the Peruvian economy grew at approximately 3.8 percent per year between 1991 (an extreme crisis year) and 2001 (a recession year), or at about 2 percent per capita (OED, 2002). According to the World Bank (OED, 2002), the 2 percent per capita growth rate was insufficient to have a significant impact on the extent of poverty. Between 1998 and 2000, economic growth slowed to an average of less than one percent per year. However, more recently GDP growth rebounded to 5.2% in 2002. This growth was almost exclusively due to the mega Antamina mining project coming on-line (Latin Focus, 2003).

Table 3.2 provides several macroeconomic aggregate figures including investment and trade, two of the main focal areas of the Bank and IMF structural reform programs. Figures contained in Table 3.2 demonstrate that foreign direct investment overall increased substantially from US\$ 59 million in 1989³⁴ to a peak of US\$ 1.82 billion in 1998. However, more recently it has dropped off to only 448 million in 2000. With regards to trade, the overall dollar amount has substantially grown since 1989 (the pre structural reform year for which data were available). However, exports as a percentage of GDP fell from 17.2 percent in 1989 to 12.9 percent in 2000. Imports have also substantially grown since 1989. Data show that there was a trade surplus in 1989 compared to a trade deficit in 2000, albeit small.

Low Tax Revenue Level – The extractive industries in Peru do provide substantial revenue to the government budget. In 1999, the Bank reported that since 1991 taxes on petroleum products have provided resources of US\$ 1 billion per year (ESMAP, 1999). However, as shown in Table 3.2 although overall tax revenue increased in the post structural adjustment period, the overall tax

³⁴ Data were not available for the 1990 base year.

revenue level since 1997³⁵ has dropped from 14.6 percent of GDP to approximately 12 percent in 2000 and subsequent data shows it remains around 12 percent through 2002 (Latin Focus, 2003). This puts Peru's tax revenue level at one of the lowest for all of Latin America (Latin Focus, 2003). This result is in spite of the fact that Peru was one of Latin America's strongest performing economies in 2000 to 2002.

Such a relatively low level of tax revenue may indicate too many tax breaks and/or inefficient tax collection. Given that mining represents approximately 50 percent of all exports, the multiple tax breaks awarded to the mining sector described in sub-section 2.2.4 could very well play a part in the unexpectedly low level of tax revenue in Peru. This potential appears to have not escaped the IMF as it has in recent years recommended a redesign for the mining sectors tax regime (GoP, 1999). However, given the stabilization agreements offered to the new large-scale mining investments, any improvements in the tax regime may not apply to these operations for ten to fifteen years.

Table 3.2 Selected Peruvian Economic Indicators

Year	1989*	1997	1998	1999	2000 (Estimate)
GDP (million US\$)	20,600	58,954	57,080	51,963	54,062
Tax Revenue (percent of GDP)	-	14.6%	14.2%	12.7%	12.2%
Other Revenue	-	0.9%	1.2%	1.7%	2.2%
Total Revenue	-	15.6%	15.4%	14.4%	14.5%
Privatization Proceeds (million US\$)	-	145	60	219	229
Foreign Direct Investment ³⁶ (million US\$)	59	1,553	1,820	1,751	448
Exports (million US\$)	3,533	6,832	5,758	6,114	7,016
Exports (percent of GDP)	17.15%	11.7%	10.0%	11.8%	12.9%
Traditional (million US\$)	-	4,705	3,712	4,143	4,815
Non-traditional (million US\$)	-	2,127	2,046	1,971	2,201
Imports (million US\$)	2,287	8,553	8,222	6,729	7,372
Export Value (annual percent change)	-	15.8%	-15.7%	6.2%	14.8%
Volume Growth	-	13.2%	3.1%	13.9%	10.1%
Price Growth	-	2.3%	-18.2%	-6.7%	4.2%
Import Value (annual percent change)	-	8.3%	-3.9%	-18.2%	9.6%
Volume Growth	-	11.9%	1.3%	-18.1	4.3%
Price Growth	-	-3.2%	-5.1%	-0.1	5.0%

Data Sources: Central Reserve Bank of Peru; Ministry of Economy and Finance; and IMF staff estimates and projections (IMF, 2001).

*Please note that dollar amounts have not been adjusted for inflation.

Social Programs Jeopardized – It is important to address linkages between the tax incentives in the mining sector, which largely came about under structural adjustment processes, and the relatively low level of tax revenue because it has significant implications on sustainable poverty reduction related to the availability of government resources for social programs. This important relationship was noted in a recent Bank evaluation of Peru (OED, 2002), which pointed out that “although overall tax revenues increased, [the revenues still] remained relatively low, keeping

³⁵ Comparison data for years prior to the structural reform program were not available, thus a comparison to other countries in the region is used.

³⁶ Excluding Privatizations.

levels of social expenditure well below the regional average as well as insufficient for the country's needs." Likewise, a 2001 IMF mission expressed concern that priority social programs could be jeopardized as overall social spending declines (IMF, 2001).

3.3 Macroeconomic Vulnerabilities

In addition to looking at the above snapshots of general macroeconomic indicators, in order to gain a more complete understanding of the net economic effect of the significant expansion of the extractive industries it is important to consider the overall impact on longer-term macroeconomic stability. The following section points out several macroeconomic vulnerabilities exacerbated by the concentrated growth in EI that stand to create reoccurring weaknesses in the balance of payments.

Greater Vulnerability to Adverse External Shocks – It is a widely accepted fact that the more open a given economy is the more vulnerable it is to external shocks. It is beyond the purpose of the current study to analyze the relative benefits and costs of the degree of openness of an economy. However, what is important is to look at how Peru's vulnerability to external shocks is affected specifically by the significant expansion of the extractive industries.

Starting in 1997, Peru's economic performance deteriorated mainly as a result of both adverse external shocks and domestic political difficulties. As such, the IMF (2001) and Bank (2001) staff reports started pointing to Peru's vulnerability to external shocks as a major concern and risk for the Peruvian economy. These adverse external shocks are largely associated with fluctuating mineral prices and El Niño.³⁷ Given that mining currently accounts for approximately 50 percent of all Peruvian exports, a drop in international mineral prices triggers a corresponding drop in overall Peruvian export value and, hence, has a negative effect on Peru's terms of trade (i.e., the price ratio at which exports can be converted into imports) and GDP.

This type of external shock is appropriately termed a terms of trade shock³⁸. Data provided in Table 3.3 demonstrate that Peru's declining terms of trade correspond to falling prices in Peru's three main mineral exports. Furthermore, five of the ten years under the structural reform program experienced weaker terms of trade than in 1990, which is considered to be an extreme economic crisis year. Moreover, the last two years for which data exist are the worst terms of trade for Peru from 1990 – 2000 and come at the end of a decade worth of structural reforms expanding the mining sector.

Generally, a decline in the terms of trade worsens a country's balance of payments (BoP) position as imports in developing countries tend to be both price and income inelastic. As a country's BoP starts to slide, its debt burden rises and more resources (e.g., export earnings) are spent on debt repayments. Many economists believe that significant vulnerability to terms of trade shocks has a detrimental effect on the long-term growth potential of an economy (Hossain and Chowdhury, 1998). It should be kept in mind that the Bank and IMF stated near-term objective of structural adjustment assistance is to address weaknesses in the BoP.

³⁷ Another factor, but to a much lesser extent, is the weakening terms of trade following the East Asian and Brazil crises.

³⁸ To learn more about terms of trade shocks, please see the Singer-Prebisch thesis. One publication that contains a brief explanation is: Hossain, A. and A. Chowdhury. 1998. Open-Economy Macroeconomics for Developing Countries. Edward Elgar Publishing Limited, United Kingdom.. 1998.

Table 3.3 Peru's Terms of Trade and International Mineral Prices

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Net barter terms of trade (1995 =100)	93	87	95	89	95	100	96	104	90	83	83
Gold (US\$/Troy oz.)	354	363	344	360	384	385	388	332	294	279	279
Copper (US ¢/lb.)	111	106	103	87	105	133	104	103	75	71	82
Zinc (US ¢/lb.)	266	51	56	44	45	47	47	60	46	49	51

Source: IMF 2002 in World Bank/OED 2002

Out of concern for terms of trade shocks, the Bank cautioned in its 2001 CAS Progress Report that the falling mineral prices could in turn “destabilize domestic currency putting pressure on the public and corporate sectors, which are heavily indebted in foreign currency resulting in pressure on the banking system.” In addition, the IMF also warned in its 2001 Article IV Consultation that even though mineral prices were partially rebounding Peru’s economy was still “very vulnerable to exogenous shocks largely because of its over dependence on the mineral sector” (IMF, 2001).

It comes as no surprise that all of the individuals interviewed in Peru, including individuals from the Ministry of Energy and Mines, Bank country staff, private sector mining executives, and research organizations, believed that the Peruvian economy is too dependent on the mining sector. It may be concluded with a fair amount of confidence that the structural reform program supported by the Bank that was heavily concentrated on the expansion of the mining sector contributed significantly to this over dependence.

Increased Dependency on Primary Commodities – Tables 3.4 and 3.5 provide data indicating that post structural reform and the corresponding EI growth, Peru’s economy has become more dependent on primary commodities, i.e., EI did not contribute to a foundation for sustainable development. A staff person at the Ministry of Energy and Mines and the president of a foreign private mining company in Peru both agreed that for the most part value-added activities related to the extractive industries are taking place outside of the country.³⁹ Consequently, Table 3.4 shows that overall manufacturing value-added as a percentage of GDP has decreased during the post-program period from 16.1 percent in 1991 to 14.3 percent in 2000. The IDB’s 2002 country assessment of Peru points out that Peru is dependent on primary products for approximately 70% of its exports (IDB, 2002).

Table 3.4 Peru – Manufacturing Value Added 1991-2000
(Percent of GDP)

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Manufacturing Value Added	16.1	16.1	16.2	16.0	15.4	15.2	15.1	14.6	14.6	14.3

Source: World Development Index, 2002

Table 3.5 compares the share of various manufacturing sub-sectors in 1988 (a couple years pre-reform) and in 1994 (4 years with reform). The data show that the share of primary products from the extractive industries grew substantially, while the shares of sub-sectors with forward and

³⁹ Interviews conducted by Heike Mainhardt-Gibbs in Peru, August 2002.

backward linkages to the extractive industries all declined⁴⁰. This means that overall these sectors grew at a much slower rate, if at all, than the EIs. Thus, growth in EI investment and production is not providing wider economic benefits through downstream and upstream linkages.

Furthermore, as the share of primary EI products significantly increased and the more value added products share has declined, the economy has become more dependent on primary production. The trend towards more primary commodity dependency negatively affects Peru's ability to reduce poverty.

The Bank's argument is that EI investment did not displace investment that would have taken place in other sectors, such as textiles and clothing. However, the Bank's reform program did specifically target the extractive industries with for example investment promotion schemes, thereby, displacing resources that could have been used to promote and enhance the capacity of other sectors. Sectors such as textiles and clothing could potentially add more value to the economy and more job opportunities. However, it should also be noted that less access to the developed countries' markets due to subsidies and non-tariff barriers have contributed to the delay in export diversification in Peru (IDB, 2002).

Table 3.5 Peru – Manufacturing Value Added Share by Sub-Sector
(Percent of total MVA)

Primary Mining and Hydrocarbon Sub-Sectors	1988	1994
Petroleum Refineries	14.2	21.0
Miscellaneous Petroleum and Coal Products	0.0	0.0
Iron and Steel	4.1	1.8
Non-ferrous Metals (e.g., gold, copper, zinc, silver)	2.5	9.8
Other Non-metallic Mineral Products (e.g. phosphate, gems, limestone)	2.8	4.2
Sub-Sectors with Forward and Backward Linkages		
Plastic Products	3.3	2.6
Fabricated Metal Products	3.9	3.2
Machinery (except electrical)	2.7	2.2
Electrical Machinery	3.9	1.6
Transport Equipment	4.3	2.5
Professional and Scientific Equipment	0.4	0.5
Other Manufactured Products	1.3	1.2
Employment Intensive Sectors		
Food Products	13.0	12.8
Textiles	10.4	5.1
Clothing (except footwear)	2.2	1.6

Source: UNIDO, Country Industrial Statistics, 2003.

Rising Energy Deficits – According to the IMF (2002), the increased energy demand from the mining sector coupled with a declining trend in oil production has generated a large negative pressure on the country's balance of payments. Peru's fuel and energy imports, which are mainly diesel and fuel oil, have increased 255% from 1990 to 2000 (IMF, 2002). Net energy imports as a percentage of commercial energy use were 19% in 1997 compared to negative 6% in 1990 (World Development Index, 2000), a year when Peru was a net energy exporter.

⁴⁰ With the exception of professional and scientific equipment which only represents 0.05 percent.

The World Bank and IMF have encouraged the development of the Camisea natural gas project based on the fact that they believe the \$2.5 billion investment will turn Peru into a net exporter of hydrocarbons. Furthermore, the institutions expect Camisea to lower overall energy prices in Peru to in turn attract investment into other sectors. However, a professor of geology and petroleum at the National University of Engineering (UNI) believes that the Camisea project will not be able to resolve the hydrocarbon deficit based on the fact that Peru currently has a 50,000 barrels per day (bpd) gap and the Camisea project will only produce at most 20,000 to 30,000 bpd for Peru (*La República*, 2000).

In general, the IDB concludes that the substantial trade liberalization undertaken in Peru with the support of the Bank and IMF has “not yet brought about the desired changes in the country’s external position,” i.e., balance of payments (IDB, 2002). Overall, there is persistence of an external constraint on growth.

3.4 Production Regime Effects

Table 3.6 provides a summary of the major hydrocarbon and mining asset transactions that have taken place as part of the IMF- and Bank-supported privatization and concession programs from 1993 to 2002. In general, these programs resulted in a significant concentration of large foreign enterprise ownership of the strategically important Peruvian mineral and hydrocarbon assets. As such, there has been a production regime or asset control shift in both the mineral and hydrocarbon sectors from Peruvian-based to foreign-based.

As part of the World Bank-supported transformation of the hydrocarbon sector, the assets of the state-company Petroperu were largely privatized in 1993-95 (for a list of the original assets please see section 2, Table 2.3). As a result, a majority of Peru’s oil is now produced by the Argentinean company Pluspetrol (see footnote for environmental record⁴¹). Pluspetrol is also the primary developer of the Camisea project, the largest natural gas deposit in all of Latin America. Overall, what remains in the hands of Peruvian hydrocarbon companies is production of the marginal blocks of the old Northwest Fields, well service units, part of the petroleum distribution/storage facilities, and a minor share of gasoline retail stations. The large foreign enterprises now control all of the major deposits of oil and natural gas, the major hydrocarbon refineries (equal to 87% of Peruvian oil products), and a major portion of the transportation and distribution network, including a majority of the gasoline retail stations, 200⁴² in total owned by Shell-Netherlands, Mobil-US, Chevron Texaco-US, Repsol-Spain, and YPF-Argentina (ESMAP, 1999).

Furthermore, the majority of small Peruvian contractors that entered into the marginal blocks of the Northwest Fields have not been successful. Not only are the blocks marginal in production terms, but given they are the oldest of the Peruvian fleet, they also require the most mitigation for past environmental damage (ESMAP, 1999), which also makes them less profitable. The most prolific production in the Northwest Talara Basin, Block X, was awarded to the Argentinean company Perez Compac, under a World Bank funded service contract. Even though Block X had

⁴¹ According to Amazon Watch - In October 2000, Pluspetrol oil spill on the Marañon River contaminated Peru’s largest protected area, the Pacaya Samiria Reserve. It contaminated the food and water supplies of the Cocamillas people who suffered diarrhea and skin diseases. In November 1999, a Pluspetrol oil pipeline rupture contaminated the Chambira River. The Uruarina indigenous people suffered severe health problems and death. The Uruarina people have demanded that Pluspetrol contracts be reviewed and that oil transportation be strictly controlled.
[<http://www.amazonwatch.org>]

⁴² 78 of these 200 were originally owned by Petroperu.

**Table 3.6 The Privatization and Concession Program 1993-2002:
Major Peruvian Hydrocarbon and Mineral Assets**

Enterprise / Direct WB-IMF Involvement	Description	Investment (US\$) / Local Jobs	Investor / Country
Petroperu – Amazon Block 8	2.2 million ha in the Marañon Basin, proven reserves of 73 million barrels	Total project investment: NA Est. local jobs created: NA	Pluspetrol / Argentina; PEDCO-DAEWOO-YUKONG / South Korea
Petroperu - Talara Basin Block X WB Service Contract	Proven reserves of 45 million barrels	Total project investment: NA Est. local jobs created: NA	Perez Compac / Argentina
Aguaytia Gas Fields & Pucallpa Refinery	Natural gas deposit, refinery and distribution plant, operation of 155 MW plant	Total project investment: 250 million Est. local jobs created: NA	Mapple Gas Corp. / US
La Pampilla Refinery (Relapsa Refinery) IMF benchmark	One of two large petroleum refineries, together representing 87% of Peruvian oil products	Total project investment: NA Est. local jobs created: NA	Repsol (50%) / Spain; YPF (25%) / Argentina; Mobil (10%) / USA; Grana y Montero (5%) / Banco Wiese (5%) / Fondo de Privatiz. Del Peru (5%) / Peru
Camisea - Upstream IMF benchmark SACE loan	Largest natural gas deposit in Latin America	Total project investment: 618 million Est. local jobs created: NA	Pluspetrol / Argentina; Hunt Oil / US; SK Corp. / South Korea; Tecpetrol / Argentina
Camisea - Downstream IMF benchmark IDB & CAF loans	Transportation, mainly pipeline construction & operation	Total project investment: 815 million Est. local jobs created: NA	Pluspetrol / Argentina ; Hunt Oil / US; SK Corp. / South Korea; Techint / Argentina; Grana y Montero / Peru
Petroperu – N & S Distribution Terminals	Petroleum distribution & storage facilities	Total project investment: 12.2 million	Consortium GMP Grana y Montero / Peru
Petroperu – Central Distribution Terminals	Petroleum distribution & storage facilities	Total project investment: 6.3 million	Serlipa Fuel Centre S. A. / Peru; Van Ommeren Tank Terminals / Netherlands
Antamina IFC financing MIGA guarantee	Development and operation of largest copper/ zinc mine (open pit) in Peru	Total project investment: 2.106 billion Est. local jobs created: 1,289	Noranda Inc. / Canada BHP Billington / US; Teck Corp. / Canada; Mitsubishi Corp. / Japan; Citicorp / Canada
Yanacocha IFC 5% owner MIGA guarantee (Cancelled)	Construction and operation of gold mine. Largest gold mine in Peru	Total project investment: 405 million Est. local jobs created: 350	Newmont Mining Corporation (38%) / US; Buenaventura (32.3%) / Peru; Comp. Miniere Intl. Or (4.7%) / French SOE; World Bank-IFC (5%); Union Bank of Switzerland / Switz.
Iscaycruz IMF benchmark	Zinc and lead mine development, 120,000 t/yr zinc and 10,000 t/yr lead	Total project investment: 39.8 million Est. local jobs created: NA	Comp. Paribuna di Metais (45%) / Brazil; Minero Peru (SOE) (25%) / Peru; Glencore / Switz.; Buenaventura (15%) / Peru
Cerro Verde	Copper mine privatization and expansion, from 36,000 lb/yr to 100,000 lb/yr	Total project investment: 154 million Est. local jobs created: 0	Cyprus Climax Metals Company / US
Magma Tintaya S.A.	Copper mine privatization and expansion	Total project investment: 328 million	BHP Copper Inc. / US
Quellaveco IFC shareholder	Large copper deposit development, 100,000 t/yr	Total project investment: 15 million Est. local jobs created: NA	Mantos Blancos / Chile (subsidiary of South African - Anglo American Corp., De Beers); IFC
Marcona - Hierro Peru	Large iron mine, recover original capacity of 10 ⁶ t/yr	Total project investment: 150 million	Shougang Corp. / State-owned People's Republic of China
Cajamarquilla Refinery	Zinc refinery privatization	Total project investment: 61 million	Marubeni Corp. / Japan
Mahr Tunel, S.A.	NA	Total project investment: 187.8 million	Volcan Compania Minera / Peru

Sources: Dirección General de Minería, 2000; ESMAP, 1999; Núñez-Barriga, 1999; OED, 2002; Washington Post, 2002 significant reserves, in 1999 the Perez Compac company's production fell into decline due to a drop in the international oil prices (ESMAP, 1999).

In the mining sector, the story is similar but not quite as heavily concentrated in foreign firms as the hydrocarbon sector. Still, the most valuable assets are controlled by large foreign enterprises. Peruvian mining companies mainly remain in the small- and medium-scale operations. Out of all the assets privatized, large and medium, approximately 35 percent ended up under Peruvian control⁴³. While the vast majority of economically significant assets, such as the largest copper/zinc and gold deposits, i.e., Antamina and Yanacocha, are controlled by large foreign enterprises. Furthermore, of the important domestic private firms, SIMSA (previously the largest private zinc producer), Buenaventura, and Milpo, only Buenaventura has a stake in any of the major assets shown in Table 3.6. Even so, Buenaventura is not the controlling enterprise in its two major ventures (Iscaycruz and Yanacocha).

It is also interesting to note, both a major iron ore company, Hierro Peru, and part of the largest gold mine, Yanacocha, have been transferred from Peruvian state-owned assets to Chinese and French state-owned firms respectively. When questioned on this point, Bank staff point out that evidence suggests that compared with domestic state-owned enterprises there are less chances for corruption in foreign state-owned enterprises. However, there is also evidence of successful domestic state-owned enterprises under the right conditions. For example, the world's largest coal producer is state-owned in India and the world's largest copper producer is government-owned CODELCO in Chile, which is credited with playing an important role in Chile's economic success.

The production regime effects involving foreign versus domestic ownership is an important issue on several fronts in Peru. To begin, the real accumulation of wealth tends to flow out of Peru and back to the mother countries of the foreign firms. In addition, foreign firms are also more likely to have non-Peruvians at the top management levels. Such a high concentration of foreign ownership has aggravated social unrest associated with the privatization process (see Social Antagonism below). This social unrest leads to political instability and weakens the overall investment climate.

3.5 Price Effects

The structural reform program called for price deregulation, i.e., prices set by market forces. With the elimination of fuel subsidies and an increase in certain taxes, the average consumer price of a gallon of petroleum in US dollar terms increased by four times between 1989 and 1992, while the nominal value in local currency increased by 30 times (ESMAP, 1999). Costs for petroleum production, distribution, and transport also increased by nearly three times.

When international oil prices dropped in late 1997, the foreign companies operating in Peru considered this drop an opportunity to recover investment in downstream facilities and hence did not transfer the price decrease to consumers (i.e., ex-refinery prices were not adjusted according to the crude price decrease)⁴⁴ (ESMAP, 1999). On average a crude price mark up of 8 to 10% over the import parity was taken during 1997. This foreign enterprise interference in price setting

⁴³ Figure is based on data listed in Empresa Minera Del Peru, 2002.

⁴⁴ For example, new foreign owners (a consortium controlled by Repsol-Spain including YPF-Argentina, Mobil-US, and Grana y Montero- Peru) of the privatized La Pampilla, one of two large refineries in the country, decided to stop processing heavy crude from the Amazon, which had limited the refineries processing capacity and made the operation abide by an export-parity pricing concept. Instead La Pampilla started importing crude from Ecuador and Colombia and started setting ex-refinery prices according to their own marketing criteria (ESMAP, 1999).

partially explains why, compared to other Latin American countries in mid-1997, Peru's petroleum product prices remained high (ESMAP, 1999).

It took more than three years after privatization, but eventually, reforms did foster market competition at the gas pumps and price differences between stations started showing up. However, in order for the local independent gasoline retailers to be able to compete with the large foreign firms, they had to create a consortium, which allowed them to obtain better prices by pooling their purchases. As Table 3.7 displays, these small local retailers now offer lower pump prices than the large foreign firms.

It is worth noting that the foreign companies now controlling one of two major oil refineries in Peru, La Pampilla, also control a vast majority of the gasoline service stations, these include Repsol-Spain, Mobil-US, and YPF-Argentina.

Table 3.7 Fuel Prices, June 1998 (US\$ per gallon)

Product	Mobil	Shell	Texaco	Repsol	Peruvian Retailers
Diesel No.2		1.40	1.40	1.37	1.35
84 Ron Gas	1.75	1.75	1.75	1.74	1.66
90 Ron Gas	2.14	2.14	2.12	2.09	2.02
95 Ron Gas	2.32	2.33	2.32		2.12
97 Ron Gas	2.52	2.52	2.50	2.46	2.39

Source: ESMAP, 1999

Lastly, thus far, structural adjustment has not delivered on lowering Peru's high electricity prices, which was an important objective towards attracting investment across sectors of the Peruvian economy. In fact, the mining industry complains that energy prices for the mining sector have increased substantially. The irony is that the expansion of the mining sector and the subsequent significant increase in energy demand is largely responsible for rising energy costs in Peru. Historically, the Bank and the IMF have encouraged the development of the Camisea natural gas project to help lower energy prices. However, it is unclear whether Camisea will be able to deliver on this promise (see discussion on Energy Deficits above).

3.6 Employment Effects

Important to long-term economic stability and poverty reduction is the structural reform program's impact on employment.⁴⁵ On the whole, the unemployment rate rose over the period from late 1980s to late 1990s (IDB, 2002). And even though Peru was one of the fastest growing economies in Latin America for 2001 and 2002, the unemployment rate continued to rise over this period from 6.5 to 8.9 percent (Latin Focus, 2003). In general, the post reform period is characterized by a low generation of employment during a period of high economic growth. This result may be explained by the nature of the economic growth itself, which was largely in the

⁴⁵ It should be noted that employment trends in Peru have been jointly determined by secular reforms, such as the privatizations and concessions in the mining and hydrocarbon sectors, and by impacts of wider structural reforms, especially labor market reforms. However, it was beyond the resources of this project to be able to include an analysis of labor reforms.

capital-intensive sectors of mining, telecommunications, and finance, and not in labor-intensive sectors, such as tourism, textiles, and construction.

Studies have generally concluded that the extractive sectors are not a significant source of employment creation (OED, 2002). In Peru, for example, even though the mining sector accounts for more than five percent of GDP and half of all export earnings, the sector directly employs less than one percent of the labor force (OED, 2002). Given that the mining sector is very capital intensive, impressive GDP and investment figures, typically used to rate the success of structural reform in Peru, tend to overshadow the correspondingly low level of employment.

This capital-intensive nature is especially true for large-scale mining, which is favored by the structural reforms supported by the Bank and IMF. For example, two of the most significant mining concessions established under the support of the IMF and Bank programs are the mega mining operations of Antamina (copper and zinc) and Yanacocha (gold). The Antamina project requires an estimated investment of US\$ 2.1 billion with an expected employment creation of less than 2,000 workers (skilled and unskilled) (OED, 2002). That equals one job per US\$ 1.05 million invested. Similarly, the Yanacocha mine involves an investment of US\$ 405 million and expected direct employment creation of 208 jobs. This is equal to an investment of US\$1.9 million per job created. Both of these major projects of the concessions program have an exceptionally low employment return on investment.

With that said, data provided in Table 3.8 show that the large volume of new investments in the mining sector had a mixed effect on employment in the sector itself. Even though pay-rolled employees decreased by 27 percent from 1993 to 2000, a substantial increase in contractors to the sector produced an overall 51 percent sectoral-associated employment increase. However, one has to be careful in interpreting this overall employment figure for two reasons. One, it includes short-term contractor jobs, which are significant in the construction start-up phase for the new investments. This is not to say these construction jobs are not a welcome employment benefit. The point is made to recognize the limited impact towards long-term employment creation. Second, data are insufficient to determine the net effect on employment across sectors, e.g., how fishing and agriculture have been affected by an expansion in the extractive industries.

Table 3.8 Employment Trends in the Mining Sector

	1993	1994	1995	1996	1997	1998	1999	2000*		? 93-00	? %
Payroll	32,964	30,621	29,542	30,882	28,046	25,860	25,412	24,133		-8,831	-27
Contractors	9,522	13,210	20,680	20,382	26,240	28,850	36,081	39,960		30,438	320
Total	42,486	43,831	50,222	51,264	54,286	54,710	61,493	64,093		21,607	51

Data Source: Dirección General de Minería, 2000

*Estimated

In addition, the labor statistics in Table 3.8 do not include most of the employment of the artisanal and small-scale mining as much of this activity is in the informal sector. There is some evidence that the labor-intensive small-scale mining in some areas increased due to trade liberalization and an increase in international gold prices. However, there is also evidence that in other locations small-miners have been displaced by new large-scale enterprises. A more detailed discussion on the effects to small-scale mining is provided below.

Turning to the hydrocarbons sector, the privatization process generally tended to reduce employment in the petroleum sector as a result of efforts to reduce redundancy, increase

efficiency, and make assets attractive to investors. In 1994, employment in this sector had been reduced from more than 10,000 to 6,000 (ESMAP, 1999). However, it is not clear if this figure includes jobs that were created from the establishment of new gasoline and LPG service stations.

In the end, the important point to keep in mind is that in countries with high rates of poverty, such as Peru, it is often advised to initially concentrate on a more labor-intensive pattern of development in order to deliver employment growth⁴⁶. As shown, a structural reform program that gives concentrated efforts to the promotion of the extractive sectors clearly does not deliver such a pattern.

The IDB's evaluation of Peru for 1990-2000 indicates that, "with respect to jobs and incomes, the economy has yet to lift families from poverty" (IDB, 2002).

3.7 Poverty Effects

In the mid-1990's, Peruvian poverty levels declined through the combined effect of more rapid economic growth, targeted efforts by the Bank, IDB, and CAF to alleviate poverty⁴⁷, the elimination of terrorism, and government expenditure in social services (GoP, 1999 & OED, 2002). A comparison made in World Bank documents shows that between 1991 [a year of extreme economic disparity] and 1997 [a year of extreme economic growth]⁴⁸, the poverty rate declined from 55 to 51 percent with extreme poverty dropping from 24 to 15 percent (OED, 2002; World Bank, 2001).

However, also according to the World Bank (2001), the poverty gains achieved in the mid-1990s eroded after the peak in 1997. By 2000, the poverty rate had increased back up to 54.1 percent. Nevertheless, the gains made on extreme poverty did not slip and remained at 15 percent. This sustained gain on extreme poverty may be attributed mostly to the continuation of donor-supported service delivery and education programs.⁴⁹

More directly linked to the extractive industries' affect on poverty, regional disparities increased from 1991 to 2000. According to Bank assessment (2001), the reductions in poverty that did take place post structural reforms were in Lima and urban highlands and not in the rural highlands and the Amazon, which is where a majority of the new mining and hydrocarbon developments are located.

Furthermore, the World Bank assesses that the benefits of mining to surrounding communities tends to be very limited and the revenue generated from new mining investments does not appear to be making its way back to the affected local communities (OED, 2002). This is despite a new

⁴⁶ Given the persistent high unemployment throughout the 1990s, in 2000 the newly elected President Toledo pledged to create 2.5 million jobs over the first five years. His plan was to offer tax incentives to companies that invest in labor-intensive sectors.

⁴⁷ The government of Peru, with funding support from the World Bank, Inter-American Development Bank, and the Andean Corporation of Promotion (CAF) has implemented reform programs in rural education and health, rural infrastructure, and social services for urban areas. The rural infrastructure programs were to concentrate on the improvement and expansion of the national highway system.

⁴⁸ Given the 1991 base year was a year of extreme economic crisis with poverty levels at near record highs, it is not a good year to compare reform program poverty progress against. It would be better to perhaps take a five-year average, including 1991 but also years that would be more representative of the poverty levels under the previous economic development model/conditions. Poverty data for these years were not readily available and were not used in Bank documents.

⁴⁹ Access to basic services has increased significantly, with the availability of drinking water and electricity in rural households increasing by 26 percent and 14 percent, respectively, between 1994 and 1996 (World Bank, 2001).

law (Ley del Canon) requiring revenue distribution back to the regional governments. This topic is further discussed under Section 4. Market, Policy, and Institutional Failures.

In addition, income inequality increased especially with regards to the indigenous populations, which are lagging behind across a wide range of indicators, including health, education, and poverty (World Bank, 2001; OED, 2002). The recent extractive industry developments ushered in by structural reform, especially with regards to hydrocarbons, crisscross indigenous lands in Peru (see Location Effects below).

A World Bank country staff person in Peru summed the poverty effects of the EI investment boom by saying “studies on boom economies have shown that no country in the world has been better off after a boom. Booms don’t help the poor.”

3.8 Location Effects

In the post structural reform period, extractive industry development, especially hydrocarbon, has moved to more socially and environmentally sensitive areas. According to Bank assessment “it is only since 1994 as a result of the huge private investment effort that the large majority of hydrocarbon contracts have been signed and exploration has arrived at frontier areas of the offshore, and especially in the central and southern Amazonian areas, around the Camisea discoveries and towards the border of Bolivia” (ESMAP, 1999). The Bank goes on to say that in addition to lowering exploration and production costs, technological progress brought in by the new foreign investments has allowed access to more environmentally sensitive frontier areas (ESMAP, 1999).

In total, hydrocarbon concessions account for a third of Peru’s territory, mostly in the Amazon jungle (ESMAP, 1999). From 1998 to 2007, of the 143 expected new exploratory wells listed in Table 3.1 above, 112 of them will be drilled in the Amazon, 15 in offshore waters, and 16 onshore in the Northwest. In addition to the new wells, the exploration will include 61,440 kilometers of seismic lines (ESMAP, 1999). These concessions are superimposed on territories to which indigenous tribes either hold title or lands which they have traditionally occupied (Amazon Watch, 2001). With regards to mining, most of the concessions in Peru are located in the upper Andean watersheds, producing uncertain effects upon both quantity and quality of water.

Some of the socially and environmentally sensitive areas that these new EI developments are overlapping include nationally protected areas. Table 3.9 shows that some EI concessions even stand to undermine World Bank-supported biodiversity and indigenous protected areas of Peru, including the Camisea project’s intrusion into an indigenous reserve and threat to the only marine protected area in Peru (a significant reason given by the US Export Import Bank for its refusal to lend to the project). According to Bank project appraisal documents for its Participatory Management of Protected Areas (2002b), mining and oil exploration are major economic activities that contribute to the loss in biodiversity in Peru. Major threats associated with the expansion of the EI sectors include: deforestation, soil erosion, loss of soil fertility, migration, illegal wildlife trade, loss of biodiversity, loss of watershed protection, and air and water pollution.

For example, in October 2000, a Pluspetrol (the company heading the Camisea project) oil spill on the Marañón River contaminated Peru’s largest protected area, the Pacaya Samiria Reserve. It

contaminated the food and water supplies of the Cocamillas people who suffered diarrhea and skin disorders.⁵⁰

Table 3.9 Extractive Industry Expansion and Threats to Protected Areas

Extractive Industry Activity	Protected Areas	Associated World Bank Project
Camisea natural gas wells, pipeline, and fractionation plant	Two million hectares in the Southern Amazon; pipeline overlaps with indigenous Communal Reserve of Vilcabamba Pavlik Nikitine; and gas fractionation plant located in buffer zone of the Paracas National Marine Reserve	Participatory Conservation Planning in Vilcabamba
Yanacocha open pit gold mine	Huascarán National Park	Peru-Participatory Management of Protected Areas
Mobil oil drilling concession	Tambopata-Candamo National Reserve	Peru-Participatory Management of Protected Areas
Antamina open pit copper and zinc mine	Due to public protest, rerouted around national park ⁵¹	
Talara and La Pampilla petroleum refineries ⁵²	Pacaya Samiria Reserve (see text on Pluspetrol oil spill)	

3.9 Social Antagonism Effects

Moving EI development to more socially sensitive areas has subsequently created more social antagonism. In the course of doing research for this analysis it is apparent that there are serious conflicts between local communities and mining/hydrocarbon operations. This has chiefly been due to a lack of coordination to resolve overlapping claims between mining/hydrocarbon claims and protected areas/local communities /indigenous peoples (Pascó-Font, 1997a). The investment boom in the EI sectors brought on by the sectoral reforms and high mineral prices has increased the incidences of social unrest surrounding these sectors. There are countless news accounts in the post reform period of protests over social and environmental concerns and/or violations from new development in the mining and hydrocarbon sectors (e.g., Tambo Grande, La Oroya, Antamina, Yanacocha, and Camisea).

Furthermore, a public opinion survey was conducted in Peru following the Privatization Adjustment Loan for the EI sectors, which saw a steady erosion of support for the privatization process from a high of 62 percent in 1992 to 29 percent in 1999 (OED, 2002). The highest opposition came from the lowest economic strata. These survey results appear to suggest that the general population may not have been opposed to privatization in theory, and that opposition has more likely stemmed from the way in which privatization has been implemented. A big part of

⁵⁰ As reported on <http://www.amazonwatch.org>.

⁵¹ It is important to note that as a result of international NGO pressure and local protests, the Antamina project eliminated a planned road through a national park and replaced it with a pipeline around the national park and has joined an NGO foundation to address problems of social and environmental impacts of the mining operations. However, attention to environmental and social developments will need to be maintained as the mine expands operations.

⁵² Talara and La Pampilla both existed before the SA program. They were both privatized and oil transportation out of these refineries has not been regulated. See text on oil spill by Pluspetrol and Section 4 on policy failures.

this implementation is the accompanying policy and institutional frameworks for which the Bank's PAL and EMTAL significantly influenced.

In mid-2002, Peruvian newspapers reported that violent riots over privatization interrupted the privatization program and threatened Toledo's presidency itself. On June 18, 2002, hundreds of troops had to take control of Arequipa, Peru's second-largest city, after the government imposed a state of emergency to end violent protests against sale of two state-owned electricity generating companies (Forero, 2002). Even projects that are considered as shining examples of progress in resolving social issues, such as the Antamina mining project, still have persisting problems. In the case of Antamina, there are many problems associated with inequities generated by development that provides remuneration to a few who are directly affected by the project, but not to surrounding communities.

On the plus side of structural reform which tends to favor large-scale projects, some individuals interviewed in Peru believed that the larger companies generally took social concerns more seriously than the medium- and small-scale operations. However, the large-scale projects tend to involve large-scale social disruptions as well.⁵³ The development of a national grass roots organization of rural communities "affected" by the mining industry (CONACAMI) further illustrates the growing social demand for systems to monitor the outcomes of social and environmental management plans.

Ironically, the increased social unrest associated with the investment boom in the extractive industries undermines Bank and IMF structural reform efforts to improve the investment climate of Peru.

3.10 Environmental Performance Effects

In addition to the structural reform induced move to more environmentally sensitive areas, impacts from the Bank EMTAL activities to improve the environmental performance of the EI sectors has been small according to Bank assessment and, compared to the rate of EI growth under the aegis of structural reform, marginal (OED, 2002). In other words, efforts to improve environmental management have been unable to keep up with the pace of EI expansion. Hence, every Bank CAS from 1990 to 2002 for Peru lists environmental degradation from the mining and hydrocarbon sectors as one of the biggest environmental problems⁵⁴ along with urban air pollution.

With that said, it is important to note that through Bank assistance there has been some improvement due to dealing with a number of past environmental liabilities and mitigating some effects of new operations through the newly required environmental management plans or PAMAs. According to the Bank, some mining contamination levels⁵⁵ were reduced by 15-20 percent during 1996-98 and the larger enterprises committed all together to invest \$1 billion

⁵³ Small- and medium-scale operations have high environmental and health costs, but typically do not involve significant involuntary relocation.

⁵⁴ To give some idea of the type of environmental degradation involved, negative environmental impacts from oil and gas activities in Peru typically include leakages and spills, flaring of excess gas, and the opening of access to new areas where settlement and deforestation occur (see Location Effects above). In the mining sector, activities are associated with deforestation, soil erosion, and contamination of surface and groundwater from toxic wastes and mine tailings. In addition, closed and abandoned projects often leave a legacy of clean-up costs that no one may be willing or able to pay.

⁵⁵ This pertains to water and air pollution from airborne particles and mine tailings.

through 2006 in pollution abatement (OED, 2002). However, for the most part commitments made in PAMAs have been found to be largely inadequate towards addressing environmental issues associated with mining operations (please see Section 4. Market, Policy, and Institutional Failures).

Furthermore, recent interviews with the GoP's Ministry of Energy and Mines and National Environmental Commission (CONAM) as well as World Bank country staff found that the government's capacity for environmental management of the extractive industries remains exceedingly weak.⁵⁶ Unfortunately, there are no existing data on overall environmental performance of the EI sectors pre- and post reforms. However, an exceedingly weak government capacity coupled with marginal gains in environmental mitigation linked to Bank assistance means that the significant expansion in EI exploration and production induced through structural adjustment has come at higher than necessary environmental costs and, mostly likely, has caused an overall increase in environmental degradation.

For example, evidence suggests that there has been an increase in air pollution associated with the significant increase in energy demand stemming from the growing mining sector. The Bank reports a dramatic increase in diesel No. 2 due to both the strong dieselization of the transport fleet⁵⁷ and the development of additional thermal power generation largely to supply the Central and Southern markets where the mining sector has received large foreign investments (ESMAP, 1999). Consumption of fuel oil No.6 also increased for thermal generation. These fuels are significant emitters of carbon dioxide (i.e., a greenhouse gas), particulate matter, sulfur dioxides (SO_x), and nitrous oxides (NO_x). The mining sector's increased reliance on such low quality fuels significantly contributes to the existing air pollution problems facing Peru. This is especially true given that Peru does not have pollution abatement equipment in place to control NO_x, SO_x, or particulate matter.⁵⁸

It may be argued that any type of economic development would result in an increase in air pollution associated with an increase in energy production. Thus, the argument goes, this should not be considered a problem special to the mining sector. However, given that the mining sector is one of the most energy intensive sectors of Peru, a structural reform program that specifically targets growth in this sector is linked to a higher increase in air pollution than would result from growth in less energy intensive sectors, such as textiles. In addition, in anticipation of the significant increased energy demand associated with structural adjustment, the Bank could have assisted Peru in assessing opportunities for and policies to support cleaner energy generation, e.g., domestic wind power or fuel switching to natural gas.⁵⁹

Another argument often made is that privatization results in the application of more modern and efficient production with the potential to reduce environmental impact per unit of production. However, there is no evidence that privatization itself leads to improved environmental performance. According to Bank assessment, technological progress in the hydrocarbon sector "mainly" lowered exploration and production costs and allowed access to more environmentally sensitive frontier areas (ESMAP, 1999).

⁵⁶ Interviews conducted by the author in Peru during the month of August 2002.

⁵⁷ New diesel cars receive a tax exemption.

⁵⁸ Information obtained in interview between Heike Mainhardt-Gibbs and the National Environmental Commission of Peru (CONAM), August 13, 2002.

⁵⁹ Natural gas from Aguaytia will replace only about 0.2 mbd of diesel used for industry in Pucallpa (ESMAP, 1999). Furthermore, it is unclear to what degree natural gas from Camisea will be used domestically to displace the low quality fuels used by the mining industry as much of this gas is now slated for export to California.

Furthermore, a 1999 study across major mining firms in Peru, indicated that environmental performance was unrelated to type of ownership, i.e., foreign private, domestic private, or state-owned, or to the size of the firm, i.e. large-scale vs. medium-scale⁶⁰ (Núñez-Barriga, 1999). On the other hand, the study found that reliance on international financing does make a difference in environmental performance. For example, environmental performance improved on the part of local and state-owned firms mainly as a result of external pressures due to the need for external financing from the World Bank, IDB, and development-aid agencies (Núñez-Barriga, 1999).

One particularly interesting example is Milpo, a private domestic medium-sized firm. Milpo appeared to further improve its environmental performance as a result of receiving multilateral funding. However, Milpo also had shown commitment to the environment starting in 1980, long before seeking multilateral funding. In addition, the Milpo case shows that old firms starting production back in the 1940s can make important investments in environmental controls and still remain competitive (Núñez-Barriga, 1999).

According to the Bank, it continues to include environmental components in individual projects, but “faced with institutions that are not strong enough to meet the challenges and with weak commitment, its impact towards improving the environment continues to be minor” (OED, 2002).

3.11 Scale Effects: Small-Scale Mining

Effects on small-scale mining in the post reform period have been mixed from an overall increase in their activities and the subsequent livelihoods it provides to a decrease in access to minerals and increased environmental damages.

Small-scale mining is an important source of employment for the rural poor. There are approximately 13,000 artisanal miners in Peru. Including their families, there are approximately 45,000 people dependent on small-scale mining activities for their livelihoods (Pascó-Font, 1997a). However, a vast majority of small-scale and artisanal miners are in the informal sector. One way to define informal mining is mining without a legal right to a mining concession.

Most artisanal miners are unable to ask for mining concessions because the areas they mine have already been granted to others, often people that have never worked in the area (Pascó-Font, 1997a).⁶¹ Even so, artisanal mining can coexist with other mining operations because the geological characteristics of the ores give the informal artisanal miners an advantage over or even preclude other mining technologies used in larger formal operations (Pascó-Font, 1997a). Furthermore, processing plants often need informal miners to bring the supply of minerals to them. However, formal concession owners often take advantage of the informal miners’ situation and, in turn, pay them low prices for their minerals (Pascó-Font, 1997a).

Under the New Mining Code supported by the Bank, those who own mining concessions have to pay an annual fee for using them. If they fail to do so for two consecutive years, they lose their concession. Subsequently, a large number of concessions have been turned over, initially reducing the past monopolization of concessions by a small number of persons (Pascó-Font,

⁶⁰ The study included only large and medium operations, i.e., no small-scale mining.

⁶¹ Ninety-five percent of informal miners are considered resident miners, i.e. living near the exploitation site (Pascó-Font, 1997a).

1997a). In some areas, this has aided the formalization of small-scale miners. For example, in 1996 the government granted 1,300 mining concessions to previously informal miners in Madre de Dios (Pascó-Font, 1997a).

However, in the areas of Ica and Arequipa, the mining registry reform and the opening of land to new concessions since January 1995 has complicated the process of formalization for the artisanal miners in the area. This is significant because these areas have represented in the past the majority of informal gold production.⁶² Since reform, very few miners in Ica and Arequipa have been able to start private companies or to bid for concessions. A majority of the concessions were granted to either speculators who expect to negotiate with foreign investors or leaching plants that already enjoy a privileged negotiating position with informal miners by owning the concession (Pascó-Font, 1997a). As a result, many informal miners continue to work on concessions that do not belong to them and, thus, they continue to be exploited and have no livelihood security.

In addition to the problems associated with the informal status, small-scale mining also has issues regarding social disruptions, working conditions, and the environment. Not only do small-scale miners sometimes work on concessions owned by other mining operations, but also on land that rightfully belongs to communities and indigenous peoples.⁶³ In addition, the miners themselves typically suffer from very poor working conditions.⁶⁴

With regards to the environment, although it is commonly believed that small-scale mining is more environmentally harmful than other operations⁶⁵, the actual environmental effects greatly depend on the physical location and the type of operation. Artisanal operations such as pushcarts have little environmental damage; they remove only a small amount of material allowing the forest to regenerate easily (Pascó-Font, 1997a). However, the front-end loaders mainly used in the Amazon foothills have much more environmental impact.⁶⁶

Trade liberalization and an increase in the market price for gold created plenty of economic incentive for small-scale mining. In the post-reform period, front-end loaders have doubled in number since 1994 to 1997 from 200 to 400 (Pascó-Font, 1997a)⁶⁷, producing not only more gold output, but twice as much environmental degradation as well.

Partly to blame for why informal miners do not upgrade their mining techniques with regards to the environment and health is their legal instability. As previously mentioned, the miners do not have legal right to defend the property they are working on and, thus, have no job security. Therefore, the strategy is to extract the greatest amount of minerals in the least amount of time, before the concession is taken away from them (Pascó-Font, 1997a). Policy and institutional changes are necessary to improve the legal/formalization status of small-scale miners. In

⁶² Together, Madre de Dios and the highlands of Ica and Arequipa account for 75 percent of informal gold production (Pascó-Font, 1997a). Of this 75 percent, Arequipa represents approximately 80 percent.

⁶³ Just as some formal operations have disputes over compensation to individuals for the loss or use of their land, just compensation is even less likely to take place under informal conditions.

⁶⁴ Often workers live in over-crowded, deficient conditions and are exposed to health hazards from their mining techniques (e.g., toxic effects of mercury) and from tropical diseases (Pascó-Font, 1997a).

⁶⁵ Small-scale mining operations are often associated with environmental effects due to the incorrect use of mercury, petroleum, and lubricants.

⁶⁶ The operation involves cutting down trees, burning the thicket, removing a substantial amount of material, and compacting the soil, all of which make it difficult for forest and watershed recovery (Pascó-Font, 1997a).

⁶⁷ Even with the new large firms like Yanacocha, in 1995 and 1996 informal production still accounted for 40 percent of total gold production in Peru (Pascó-Font, 1997a).

addition, technical assistance programs could be provided to small-scale miners to improve their efficiency, health, technology, quality of gold, and environmental performance.⁶⁸

The World Bank's Energy and Mining Technical Assistance Project (EMTAL) 1993- 1998 did address small-scale and informal mining. According to the Government of Peru (World Bank, 1999), the project resulted in educational material for small-scale miners; diagnosis of problems associated with artisanal mining; and the determination of the need for multi-sectoral projects to deal with socio-environmental problems in gold mining. Furthermore, the environmental subprogram supported territorial environmental assessments in 14 mining areas, in particular those where informal mining is prevalent. During the course of research, no evidence was found on progress in health, safety, marketing, financial, or environmental issues concerning small-scale mining in Peru.

In order for actual benefits to be realized from the EMTAL with regards to small-scale mining project activities, the World Bank (1999) and the Government of Peru agreed that the project must be followed by a second program to disseminate environmentally sustainable operational practices, especially to gold producers. However, no follow-up program has been indicated.

4. Market, Policy, and Institutional Failures

Bank-supported reforms have tended to concentrate on improving policies and institutions in favor of investors, mainly foreign, without commensurately strengthening policies and institutions for the poor and environment and thereby creating an imbalance. Based on the experience of a World Bank staff person in Peru, "a big problem is not having all the rules of the game set [prior to structural adjustment processes]. Big companies come in and simply buy off the local people and government."⁶⁹

Overall, an inadequate regulatory system and weak government capacity to support community development and environmental protection have seriously constrained the potential for socially beneficial development in the mining and hydrocarbon sectors in Peru.

The following section starts by identifying market, policy, and institutional failures that were corrected through structural reform followed by a more detailed discussion of failures either left uncorrected or that are associated with the structural reform program in Peru.

4.1 Corrected Failures

Fewer Barriers for Foreign Investment - A central objective to the structural reform program was to make Peru's economy more competitive and attractive to foreign investment. The program was successful in correcting several existing failures towards improving competition and the investment climate. These include corrections such as: dismantling the petroleum state monopoly; reducing domestic political interference in EI price setting; improving the quality of

⁶⁸ Surprisingly, there are very few illiterate miners in Peru. Many are young and relatively well-educated people who needed to find work (Pascó-Font, 1997a). This fact increases the potential for beneficial impacts from training and environmental programs.

⁶⁹ Based on an interview between Heike Mainhardt-Gibbs and Peru-based World Bank staff, Peru July 2002.

some petroleum consumer services;⁷⁰ and strengthening EI commercial land tenure and commercial mineral rights.

Limited Environmental Improvements – Bank technical assistance help to establish some regulations on environmental emission levels for the EI sector, and initiated the requirement for environmental management plans for EI operations (although shortcomings of the management plans are discussed below).

However, in order for these corrections to have overall positive economic, social, and environmental outcomes the reform program needed to address numerous additional market, policy, and institutional failures. The next two sections describe several failures important to sustainable development that were un-addressed or were created by the structural reform program.

4.2 Persisting Failures

Although Bank supported reform programs are limited and cannot be expected to address all failures in a given country, in cases where program reforms contribute to EI expansion there are several failures significant to poverty creation and environmental degradation that are essential to address or, at the very least, should not be exacerbated by reforms. In the case of Peru, a number of important existing failures persisted post reform. For example:

Market Failures

Market access constraints of the domestic private sector – One of the main Bank and IMF objectives of the structural reform program is to attract foreign investment into Peru. At the same time, the reform program was supposed to also encourage development of the domestic private sector. However, due to a combination of investment streamlining, 100 percent profit repatriation, and VAT exemptions, the post reform foreign investment boom placed the ownership of core Peruvian mineral and hydrocarbon assets predominantly in the hands of foreign companies. Domestic Peruvian companies were and are simply unable to compete with the access to capital and financing terms accorded to the large foreign enterprises. According to the Bank's own assessment, access by Peruvian companies to long-term finance is a major constraint for domestic private sector development (OED, 2002).

In an effort to develop local capital markets, in special cases COPRI (the Bank-assisted committee for the promotion of private investments) was granted the authority to directly sell assets to workers, users of public services, or domestic clients of financial institutions. However, this modality was only used for some well service units and small Petroperu assets (ESMAP, 1999). The structural reform program did not give enough priority to enhancing and encouraging the development capacity of the domestic private sector, such as the pre-existing skillful managers in the petroleum sector⁷¹, the successful domestic mining firms, or the small-scale and artisanal miners.

⁷⁰ ESMAP, 1999.

⁷¹ Examples of the technical and management capacity of Peruvian domestic EI workers - Despite the financial crisis in 1990, the technical personnel and management of the government-owned Petroperu was able to continue delivering petroleum products throughout the country without any supply disruption or significant industry accidents, and with extremely restricted financial resources (ESMAP, 1999). Furthermore, the new international companies hired many of the former workers.

Not enough attention to small-scale mining - In general, structural reforms tended to target the development of large-scale operations. In the post reform period Peru saw the development of its largest copper mine (Antamina), its largest gold mine (Yanacocha), and Latin America's largest natural gas project (Camisea). However, perhaps the most poverty-relevant EI operations are the small-scale and artisanal mining operations in Peru.

In Peru, there are many policy and institutional constraints on small-scale mining that perpetuate both the informal status and hinder improving the development of the sector. These constraints have been outlined in two small-scale mining assessments that were supported by the Bank (Noetstaller, 1987; Pascó-Font, 1997a & b). Even though the reports are ten years apart, many of the policy and institutional constraints have not changed between them, which indicates the World Bank and IMF programs have not included and in some cases have even discriminated against the informal and small-scale mining sector in policy and institutional reforms. The two Bank studies considered the following as constraints:

- Policy environment favoring large-scale investment and discriminating against small enterprises
- Institutional framework inadequate to support the small-scale segment
- Regulations and circumstances that exclude small operations from institutionalized finance
- Lack of appropriate marketing facilities for small operations
- Concession registry system
- New concessions opened to new large foreign firms
- Lack of government capacity to enforce concession rights⁷²

Weak forward and backward linkages – Mining and hydrocarbon sector linkages with the rest of the Peruvian economy have continued to be weak. Program reforms ushered in many large foreign enterprises. But, this has not been coupled with a capacity of any significant degree to develop forward and backward linkages with smaller firms and other sectors of the economy, such as adding more value through the refining and fabrication of products. In some new EI developments (e.g., Yanacocha), there have been explicit policies to buy from local producers. However, it has been almost impossible to contract many things locally. For example, the mining industry is comprised of highly specialized operations with many specifications that cannot be met locally. Unfortunately, assistance to MEM concentrated almost exclusively on attracting foreign investments and not supporting the development of local industries, which are in need of training and guidelines on supplier specifications. As a result, new enterprises have been unable to wait for local contractors to catch up and a great opportunity for local business development has been lost.⁷³

Peru demonstrates that structural reforms that simply create free market conditions do not automatically result in building more value-added to the economy. Specific and coordinated reforms to create forward and backward linkages are necessary, such as training for local governments and industries, and enhanced contract terms to develop an industry for mineral inputs.

⁷² This is partially caused by the relatively easy access the informal miners have to gold deposits.

⁷³ Interview between Heike Mainhardt-Gibbs and Peruvian EI consultant, July 2002.

Environmental and social costs not internalized – If left un-checked and un-regulated, the market does not automatically internalize the significant social and environmental costs associated with the extractive industries. As such, there is an important role for the government to play in regulating and managing the development of the extractive industries. However, as explained below, this important role for the government did not receive enough priority in the reform program.

Policy and Institutional Failures

Conflicting land classification schemes and lacking property rights - Strengthening investor property rights has proven to be an important factor in attracting foreign investment into the extractive industries in Peru. The structural reform program supported new mining and hydrocarbon legal codes that strengthened the rights and access of investors to extractive resources through such measures as automatic permitting; no size limits; guarantees on commercial land tenure; clarification of exploration rights and access to pipelines; and the establishment of a public mining registry to expedite new investment requests.

However, the reform program did not address conflicting land classification schemes and thus mining and hydrocarbon rights overlap with protected areas and indigenous reserves. As a result, there continues to be serious conflicts between local communities/indigenous peoples and mining/hydrocarbon operations. This result is largely due to the fact that there is no coordination among the various ministries charged with granting land rights (Pascó-Font, 1997a). Thus, the current institutional setup cultivates overlapping claims. For example, the Ministry of Agriculture grants lands to native communities, INRENA establishes protected areas, and the Ministry of Energy and Mines grants mining and hydrocarbon concessions. The Bank reform program only strengthened MEM's capacity to secure concessions for the private sector and did not address this faulty institutional setup.

Moreover, the reform program helped to strengthen investors' land rights and access to resources without equally strengthening the land rights of poor local communities and artisanal miners⁷⁴ or enforcement of protected areas. In fact, new mining laws weakened the capacity of protected areas management by repealing a measure in the 1990 Environment and Natural Resource Code that forbade mining in protected areas.

Furthermore, the structural adjustment program promoted expansion of EI in areas conflicting with indigenous lands, such as the Camisea natural gas project (see Location Effects). While ignoring the fact that there continues to be many unresolved legal problems regarding indigenous communities in Peru, including (Pascó-Font, 1997a): 1. lack of state priority to award concessions over their territory; 2. a dearth of authorities that are capable of enforcing their legal rights; and 3. lack of procedures that allow them to defend against negative environmental impacts generated by mining/hydrocarbon operations.

Inadequate social and environmental standards for EI – A 1999 Bank/UNDP report (ESMAP, 1999) on the hydrocarbons sector found that “there is a need to rapidly improve standards to protect the environment and respond to social concerns of indigenous peoples...This is clearly an

⁷⁴ The World Bank has in recent years recognized the need to provide more assistance on small-scale mining issues and has created the Communities in Artisanal and Small-scale Mining initiative (CASM). However, experts following this initiative state that progress is slow and the effort is significantly under funded.

empty spot in the regulatory framework where there is a lack of very precise, minimal, and practical rules acceptable to all.” One study (Pascó-Font, 1997b) found that for smaller mining operations the amount of environmental investment required by the new law is too small to overcome environmental problems.⁷⁵ In another example, the Bank/UNDP report points out that the arrival of gas from the Aguaytia and Camisea projects “demands the review and upgrading of regulations pertaining to transport and distribution activities...existing laws provide only the basic principles and much remains to be done.” Lacking regulations on the transport and distribution of hazardous materials has made it difficult to address associated negative social and environmental impacts from both the mining and hydrocarbon industries.⁷⁶

Throughout the 1990s, numerous World Bank documents advise strengthening the social and environmental legislation and institutions surrounding the extractive industries in Peru. As described in section 2, the Bank supported some environmental and social related studies and monitoring as well as the development of some environmental regulations. In addition, a new law now requires mining firms to make an annual investment in environmental improvements of a minimum of one percent of total annual sales (Pascó-Font, 1997b). However, despite the above measures, a 2001 World Bank CAS Progress Report states that weak policies and institutional capacity remain major drivers of environmental degradation.

Even so, there remains no World Bank or IMF structural benchmarks tied to improvement in environmental or social performance of the expanding extractive industries. Moreover, even if the government receives support to strengthen social and environmental standards, due to the stability agreements offered by the post-reform contract model, it could be ten to twenty years before any significant improvements could be realized.

Poor government EI revenue management – The distribution of government revenue generated from the EI sectors lacks transparency and accountability. Appropriate government revenue management is essential for transferring the resource rents potentially gained from increased investment in the extractive industries into sustainable development outcomes for the poor. In 1992, the Government of Peru created a new law (canon minero), which required a percentage of mining profits to be returned to local communities. Similarly, in the hydrocarbons sector a percentage of royalties is required to be distributed to the regional government where production is located.⁷⁷ However, in both cases the regulations are unclear and do not provide for a transparent or accountable government process of revenue distribution.

According to an OED (2002) assessment, little of the EI funds appear to reach the local communities, and furthermore, regulatory improvements are needed to identify: “1. who exactly should benefit; 2. which level of government should administer these funds; and 3. what type of investments should be made with the money.” In addition, the most recent Peru CAS states that the distribution of the mining revenue tax is still unclear and is a subject of conflict. There is disagreement on how it should be interpreted and applied, and there is a lack of transparency

⁷⁵ The Bank has undertaken studies to look at possible solutions (Pascó-Font, 1997b).

⁷⁶ Examples include a major mercury spill by the Yanacocha mine in June 2000 (see the Compliance Advisor Ombudsman of IFC/MIGA July 2000 report) and a November 1999 Pluspetrol oil pipeline rupture that contaminated the Chambira River and caused severe health problems for the Urarina indigenous peoples who have demanded that Pluspetrol contracts be reviewed and that oil transportation be strictly controlled [<http://www.amazonwatch.org>].

⁷⁷ As the law stood in 1999, the vast majority (87.5%) was allocated to the Treasury, including a 3% deduction for MEM, and the rest (12.5%) to the regional government (ESMAP, 1999). However, the allocation may have been revised recently.

surrounding the transfers (World Bank, 2002a). Furthermore, according to the IMF (2001), there has been an increase in the rate of revenue-sharing with the provinces and local governments but without any parallel transfer of spending responsibilities.

4.3 Reform-Created Failures

In addition to persisting failures, in some cases World Bank-supported reforms in Peru have created or exacerbated institutional, policy, and market failures, including:

Market Failures

Lack of competition – The Bank/IMF-supported privatizations and concessions program in Peru was intended to spur competition and efficiency in the economy. This objective has been met with only limited success. For example, it is reported that competition has provided an improvement in hydrocarbon service products (ESMAP, 1999). However, as described in Section 3 – Price Effects, there appears to be some oil/gasoline price interference by large foreign enterprises.

Furthermore, competition in the concessions program was intended to take place through the bidding process. Resource rights were to be sold to the highest bidder and the idea was that competition between firms would lead to a final bid that equals the full value of anticipated economic rent. In the case of the Camisea natural gas concessions, it was planned to separate production (upstream) from transport and distribution (downstream) to foster more competition. However, a Pluspetrol consortium⁷⁸, that already controlled the upstream concession, was the lone bidder for the downstream concession (*La República*, 2000). As a result, Argentina's Pluspetrol has gained hydrocarbon sector dominance by having both majority control over Peru's natural gas production/distribution and majority control of Peru's oil production (ESMAP, 1999). As noted elsewhere in the document, Pluspetrol has a poor environmental record and US EXIM financing for the downstream concession was denied due to violations of social and environmental standards.

It is important to note that before Camisea was awarded there were concerns over competition. The 1997-2000 World Bank CAS (2001) reports that “after several years of vigorous privatization, the process has slowed in the face of political resistance and concern about competition.” Even though competition creation is a main objective of the privatization program and it was uncertain that this objective was being met, both the Bank and IMF pushed forward placing an “intensified” privatization process as a progress benchmark for both institutions’ continuing country programs.

Policy and Institutional Failures

Privatization of EI without establishing new government role or adequate capacity – With regards to the privatization process, a joint World Bank-UNDP team (ESMAP, 1999) noted that now that the hydrocarbon industry is largely in the hands of the private sector Peru requires a state-of-the-art regulatory system. Given that there is no tradition in Peru of a regulatory state, the privatization process must clearly establish the new government role and provide adequate assistance to develop the appropriate regulatory capacity regarding, *inter alia*, competition,

⁷⁸ Consisting of the same main partners of Hunt Oil (US) and SK Corp. (South Korea).

social, and environmental standards. However, with the exception of agencies to promote investment and privatization, the OED determined that the institutional development impact of the Bank's assistance program in Peru was negligible (OED, 2002). Furthermore, the Bank-UNDP team considered the lacking regulatory capacity as one of the most serious gaps in the sector reform.

Both EI investors and local communities alike have complained of problems associated with the fact that there are no minimal environmental or social standards imposed by the government and that the responsibilities of the government with regards to community development and environmental protection are unclear.⁷⁹

Preferential Tax Treatment for EI Expansion – Goods and services used by companies in exploring for oil/gas and minerals and in developing new projects qualify for a VAT exemption. To begin with, this exemption could be considered an input subsidy (which tends to be the position of the IMF). Furthermore, this VAT exemption does not apply to pollution control equipment associated, which would be needed to mitigate these new EI activities. In addition to the 18% VAT, pollution control equipment is subject to an ad-valorem custom duty of 12% (lowered from 15% across most imports post reform) (US State Department, 1994). In general, environmental considerations have not yet been taken into account for taxation purposes (ESMAP, 1999). As a result, the tax system provides incentives for EI expansion, but not to control the pollution created by this expansion.

In addition, in efforts to attract EI investment into the Amazon, Fujimori granted tax exemptions and reductions on income tax, general sales tax, the special solidarity tax, and the natural gas and petroleum taxes for the Amazon region. The Bank reports that these tax measures “not only introduced price distortions and eroded tax revenues significantly, but also fostered natural resource exploitation contributing to recent forest depletion” (OED, 2002). Even though the Bank did not support these tax measures, the Bank also did not hold back funding or urge the IMF to not continue an intensified EI privatizations program while these perverse economic incentives persisted.

Conflict of interests in institutional reform – The reform program of the Bank supported the creation of committees for EI investment promotion under the Ministry of Energy and Mines (MEM) and at the same time assisted MEM to establish itself as the authority over social and environmental compliance for EI operations. In other words, MEM is in charge of attracting investment and awarding concessions in the EI sectors and is responsible for both the approval and enforcement of EIAs and environmental management plans (PAMAs⁸⁰).

This dual MEM role causes a conflict of interests, especially given the emphasis of the Bank-supported reform program to “streamline” the investment process and provide investment incentives. In addition, the MEM unit in charge of the environment is severely understaffed, with only 3 to 4 individuals. A Peruvian extractive industry consultant interviewed for this analysis considered it to be impossible for MEM to handle the post reform investment boom and the large size of the mining and hydrocarbon sectors in Peru with such a small environmental staff.⁸¹

⁷⁹ Information obtained through interviews with the private sector and local civil society groups, July 2002. Please also see McMahon & Remy, 2001.

⁸⁰ *Programa de Adecuación y Manejo Ambiental*

⁸¹ Interview between Heike Mainhardt-Gibbs and an EI consulting firm in Peru, July 2002.

There are several indications that the conflict of interests and small staff has affected MEM's ability to provide the environmental and social guidance necessary for the extractive industries. For example, the MEM approved PAMA for Centromin⁸² operations excluded atmospheric pollution (Núñez-Barriga, 1999), which is considered a serious environmental impact of mining operations. In order to be considered in compliance with environmental regulations in Peru, currently industry is only required to abide by the terms of the MEM-approved PAMA. Furthermore, the PAMA has been designed to serve as an environmental stability agreement with fixed environmental costs for investors⁸³. Therefore, environmental issues not addressed by the PAMA, such as air quality of the privatized assets of Centromin, are unlikely to be addressed within the next decade.

In addition, MEM estimated that the required investment over 5 to 7 years for 35 Petroperu operations to address environmental damages and upgrades was US \$18.5 million (ESMAP, 1999). On average, this is approximately only \$529,000 per operation over 5 to 7 years. Considering the reportedly heavily degraded state of the sector prior to reform, this estimated required environmental investment proved to be inadequate and, moreover, affected the estimated government revenue from new investments (given the PAMA offers "fixed environmental costs", the government is responsible for additional costs). In 1999, a Bank-UNDP report found that "due to poor consideration of costs involved in the mitigation of past environmental damages, royalties from new companies have had to be downscaled to take into account the environmental investments required for the old oil fields in the Northwest" (ESMAP, 1999).

Partly due to its poor performance, in 1998 the environmental compliance unit was transferred from MEM and brought under the Ministry of Economy and Finance (ESMAP, 1999). However, this move again placed EI environmental authority under a government body primarily responsible for economic expansion and not the protection of the poor or the environment. As such, a recent Peru CAS (World Bank, 2002a) pointed out that "mining firms find it hard to address the social tensions related to large mining projects, especially given the absence of a governmental authority independent of the sector institutions that is able to address environmental and social compliance issues."

With the Bank program only providing assistance to strengthen MEM and not agencies independent of EI investment promotion (e.g. Consejo Nacional de Medio Ambiente - CONAM), it failed to provide a government framework with checks and balances that ensure adequate social and environmental standards.

Inappropriate investment promotion schemes and contract models - The Bank's approach to assisting Peru with EI investment promotion is primarily based on a combination of providing a list of the valuable mineral and hydrocarbon assets and adopting new investment codes that offer attractive measures for foreign investors such as no size limitations, no minimal performance standards, full repatriation of profits, and longer contract terms. The necessity and reasoning behind the various investment incentives is not entirely clear. For example, the mining promotion scheme encouraged by the Bank appears to be based on what could be considered an industry "wish list" and not exactly the real determinants of investment decisions by mining companies, which are primarily based on geology, market prices, and security against terrorism/sabotage (Gibbon, et. al., 1993). In the case of Peru, in addition to its rich geology, above all else the

⁸² The formally state-owned mining company.

⁸³ New investors were assured that the approved PAMA was evidence that the operation was in compliance with environmental regulations and required industry standards (ESMAP, 1999).

Bank's OED (2002) found that progress made between 90 –97, the defeat of terrorism was a crucial factor in restoring the environment for growth, especially for such activities as mining, agriculture, and transport.

Another post reform investment incentive in Peru includes the new mining and hydrocarbon contract models that offer stability agreements, which lock-in inadequate social and environmental standards for ten or more years. Furthermore, the contract model and investment promotion schemes do not give adequate, if any, consideration to the competitiveness of domestic enterprises compared to foreign enterprises, conflicting land use patterns, community development, or the creation of forward and backward linkages to the economy.

Lack of Transparency in World Bank Operations – Overall, transparency surrounding Bank structural reform operations is lacking. It is difficult for society to obtain information that clearly explains the specific policy and institutional reforms supported by Bank lending programs in Peru. In the case of institutional reform surrounding the state-owned petroleum company, reform appears to have been purposely confusing. In 1993, a new institution called Perupetro was created to replace state-owned Petroperu. The strategy in naming the new institution was to make it as similar as possible to the original national oil company in hopes that selected individuals might think that Petroperu continued to function. As stated in a Bank-UNDP report (ESMAP, 1999), “this was a deliberate attempt to avoid critics of privatization and to maintain a low profile on the reforms taking place.” Such an approach does not lend itself to transparency. Although, it is difficult to determine who came up with this strategy, it is clear that the World Bank played a large role in advising the GoP specifically on the restructuring of Petroperu. Thus, the Bank should have made sure that the process was transparent.

Lack of follow-up by GoP and the World Bank – The World Bank did make several recommendations to the Government of Peru (GoP) related to regulatory and institutional capacity building, including environmental and, to a lesser degree, social aspects. However, there was never any indication what steps the GoP was prepared or committed to implement. In addition, several important projects listed in both the 1994 and 1997 CASs never materialized, such as loans in the mining, environment, and water management sectors (OED, 2002). These Bank projects were either turned down by the GoP or were canceled by the Bank due to what the Bank considered unsatisfactory performance on decentralization and privatization (OED, 2002).⁸⁴

Since 1997, the Bank has primarily focused its loans to Peru on poverty alleviation (OED, 2002) and to its credit, the IMF 1999 program targeted social spending in the government budget as a structural benchmark (LOI, 1999). Even so, none of these activities were specifically directed at enhancing the benefits or reducing the negative impacts from mining and hydrocarbon developments that may be linked to the Bank's earlier efforts in these sectors. In addition, even though the Bank discontinued lending to expand EI, the IMF lending program continues this effort without any apparent social or environmental guidance from the Bank.

A WB report on environmental issues in Peru in FY00 noted that the “Peruvian Government's efforts to address the growing and increasingly diverse environmental problems were nominal at best, and confined to creating some institutions and passing some laws” (OED, 2002). In addition, an IMF 2001 mission expressed concern that priority social programs could be jeopardized as overall social spending declines (IMF, 2001). Among other social worries, this

⁸⁴ By the end of the decade, the Bank supported social investment projects were curtailed and postponed by the halt in the privatization program and by a lack of government counterpart funds (OED, 2002).

pull back of funds could very well lead to future slippage in the gains made on extreme poverty. This brings into question the appropriateness of coupling Bank support for social projects with progress on IMF-supported EI privatizations. Moreover, the Bank's approach to privatize and improve investment climate first and strengthen environmental and social capacity later has clearly been inadequate.

Table 4.1 summarizes the structural reform program measures and significant market, policy and institutional failures.

5. Conclusion

As a result of streamlining investment processes, stabilizing fiscal and environmental standards, and providing economic incentives, Peru's structural reform program attracted an investment boom in the mining sector and a modest revitalization of investment in the hydrocarbon sector. Mineral exports increased significantly and macroeconomic performance indicators improved. However, in the late 1990's Peru's economy weakened on many fronts, such as new investment, the trade balance, and tax revenue levels. Furthermore, the reform program appeared to exacerbate some macroeconomic weaknesses. For example, Peru's economy became more vulnerable to external shocks and more dependent on primary commodities.

With regards to employment, the mining sector showed modest gains, while the petroleum sector decreased. Most notably, EI growth did not reduce poverty and social unrest increased, producing negative effects on the investment climate. In addition, EI operations moved to more socially and environmentally sensitive areas.

The Bank provided technical assistance (TA) to begin addressing some of the negative social and environmental costs of the extractive sectors. However, there was no follow up on Bank TA recommendations. EI growth outpaced program efforts to improve environmental management. Thus, environmental degradation from mining and hydrocarbon operations remains a significant problem in Peru.

In general, Bank-supported reforms tended to concentrate on improving policies and institutions in favor of investors, mainly foreign, without commensurately strengthening policies and institutions for the poor and environment and thereby creating an imbalance. While the reform program corrected some failures, such as dismantling the state petroleum monopoly, the program did not adequately address policy and institutional failures affecting the poor and environment. These include poor government EI revenue management, inadequate social and environmental standards for EI, and weak forward and backward economic linkages of the extractive sectors.

Moreover, reforms created important failures as well, such as privatization of core mineral and hydrocarbon assets prior to government capacity to manage the sector. Furthermore, when the IMF continued the structural reform program in the late 1990s with several EI specific conditionalities, the Bank no longer provided assistance to build the critically needed GoP capacity to manage the extractive industries.

Overall, an inadequate regulatory system and weak government capacity to support community development and environmental protection have seriously constrained the potential for socially beneficial development in the mining and hydrocarbon sectors in Peru.

**Table 4.1 Structural Reform Programs and Market, Policy, & Institutional Failures:
Examples from Peru 1990 - 2002**

Structural Reform Programⁱ	Corrected Failures	Persisting Failures	Created Failures
<p>Investment Liberalization</p> <ul style="list-style-type: none"> - No restrictions on remittance of profits, royalties, or capital - Streamline licensing procedures, one-stop permitting - No performance requirements - No authorization or prior registry - EI VAT Exemptionⁱⁱ - Created Commission for Promotion of Private Investments <p>Privatizations and Concessions</p> <ul style="list-style-type: none"> - Dismantle and sell state-owned enterprises (SOE), specific targets for mining and petroleum sectors - Award mining and hydrocarbon concessions to the private sector - No liability for prior SOE debt <p>Hydrocarbon Sector Reform</p> <ul style="list-style-type: none"> - Perform minimal neglected maintenance for privatized SOEs - New Contract Model: Longer contract terms, no size limits to contract area, shorter and simplified contract procedures - New Hydrocarbon Law: Environmental assessment approval by Ministry of Energy and Mines, environmental management plans for new investments, and reduced environmental penaltiesⁱⁱⁱ - Royalties: range reduced from 15-35% and changed to 5-20% <p>Mining Sector Reform</p> <ul style="list-style-type: none"> - Contract Model: stabilization agreement for large-scale (guarantee of specified tax, labor, and environmental regulations) - Eliminated all royalties and production taxes on mineral output - Public Mining Registry: Established mining rights, reduced unresolved mining claims, and computerized system to expedite new mining requests 	<p><u>Market</u></p> <p>Dismantled petroleum state monopoly</p> <p>Reduced domestic political interference in EI price setting</p> <p>Improved petroleum consumer service quality^{iv}</p> <p><u>Policy</u></p> <p>Established some permissible environmental emissions levels for the EI sectors</p> <p>Required environmental management plans for EI operations</p> <p>Strengthened EI commercial land tenure</p> <p><u>Institutional</u></p> <p>Set up institutions for EI investment promotion</p>	<p><u>Market Failures</u></p> <p>Lack of long-term finance for Peruvian companies significantly constrains ability to compete with foreign companies</p> <p>Lack of market access for small-scale miners</p> <p>Consolidated global gold market supply chain^v</p> <p>Environmental and social costs not internalized</p> <p><u>Policy Failures</u></p> <p>Overlapping land classification between mining-oil-gas claims and indigenous- local communities-protected areas</p> <p>Lack of property rights for the poor & small-scale miners</p> <p>Inadequate social and environmental regulatory frameworks for EI</p> <p><u>Institutional Failures</u></p> <p>Overall weak institutional capacity, including agencies for social, environmental, & competition aspects of EI</p> <p>Lack of transparency and accountability surrounding EI revenue distribution – unclear regulations on who should benefit and what type of investments should receive revenue</p>	<p><u>Market Failures</u></p> <p>Lack of competition in hydrocarbon sector - significant portion of natural gas and petroleum production controlled by same foreign company</p> <p>Some foreign corporate price interference in downstream markets</p> <p><u>Policy Failures</u></p> <p>Preferential tax treatment to enter into environmentally and socially sensitive areas e.g., Amazon tax exemption^{vi}</p> <p>Preferential tax treatment - VAT exemption for exploration equipment, but not for pollution treatment equipment^{vii}</p> <p>Expedited contract procedures coupled with inadequate social and environmental provisions in new contract models</p> <p><u>Institutional Failures</u></p> <p>Lack of follow-up on Bank environmental and social recommendations</p> <p>Conflict of interests^{viii} associated with MEM's authority over environmental and social requirements of EI investments</p> <p>SOE reform lacks clear social and environmental roles and responsibilities of government</p> <p>Inadequate environmental mitigation required by management plans of new hydrocarbon investments</p>

Table 4.1 Notes

ⁱ Either directly supported under a Bank-IMF loan program or as part of documented Bank advice.

ⁱⁱ In Peru, the Value Added Tax (VAT) is equal to 18% and is one of the main revenue-generating taxes. VAT is payable on inputs and in many countries is refundable for exporters.

ⁱⁱⁱ Some environmental penalties required under the 1990 Energy & Natural Resource Law were reduced or repealed.

^{iv} ESMAP, 1999. Peru Reform and Privatization in the Hydrocarbon Sector. Joint World Bank/UNDP Energy Sector Management Assistance Programme (ESMAP), ESM216, July 1999.

^v Generally only 3 to 4 companies control major gold projects around the world.

^{vi} Exemption or reduction on income and sales tax on natural gas and petroleum activities in the Amazon.

^{vii} U.S. Department of State, 1994. Peru Economic Policy and Trade Practices. February 1994.

^{viii} The Ministry of Energy and Mines was both responsible for attracting investment into the mining and hydrocarbon sectors and for approving environmental and social impact assessments and mitigation plans.