

Chapter 1 : Incentives for Saving and Incentives for Investment

The instrument on international investment incentives and disincentives recognises that adhering countries may be affected by this type of measure and stresses the need to strengthen international co-operation in this area.

Receiving Companies Peru has signed Conventions to avoid double taxation with the Andean Community², Sweden, Chile and Canada; and currently is negotiating with various other countries in order to sign more treaties. It is clear that countries like Peru, in which the political and economical regimes have proven to be unstable and, therefore, investments imply a greater degree of risk, need to provide investors with legal mechanisms that create a climate of legal certainty and confidence. Probably the most useful instrument for purposes of reducing the aforementioned political risk is the execution of legal stabilization agreements between the State and private individuals or entities under which both parties agree to "freeze" the basic rules and regulations including certain tax rules in force at the moment the agreement is entered into, i. Said agreements may not be unilaterally modified by the State, thus allowing the investors to foresee the rules that will govern their investment during a reasonable term. Changes in legislation will not affect investors or the enterprise receiving the investment for ten 10 years. In case of concessions regarding public works of infrastructure and utilities, the term is subject to the life of the agreement, with a maximum of sixty 60 years. In addition, there are several guarantees granted by the State to investors as well as to the enterprise receiving the investment. Stability granted by the State to investors: Income Tax System applicable at the time the agreement is signed. The investor will not be affected in any way with a higher or lower tax rate than the one previously set. Free availability and remittance of foreign currency. Stability granted by the State to the enterprise receiving the investment: Stability of the Income Tax System. Personnel employment contract systems. Mechanism for promoting exports. Despite the above mentioned, at some point the stabilization of the tax regime through these agreements was criticized since it was said to represent an obstacle to the Tax Administration, i. For this reason, not so long ago, the Tax Administration intended to indirectly disregard the effect of these agreements. For instance, last year the Tax Administration disregarded the tax stability agreements executed with several taxpayers. For example, in the case between the Tax Administration and an important mining company, the Tax Administration alleged that although the exemption was stabilized, when the law expired so did the benefit granted. Thus, its effects could not be further extended by means of the stabilization agreement. On the other hand, the taxpayer alleged that an income tax exemption had been stabilized, although the law granting it had expired after the stabilization agreement was entered. In addition, in similar cases involving several utility and mining companies³, these taxpayers benefited from a law that granted tax consequences to the reappraisal amount of assets within a merger or spin-off process. This benefit implied that by a mere appraisal of assets, the depreciation basis could significantly increase and so the tax shield. As the tax collection alarmingly started to drop, the government passed a law that eliminated the said benefit. The Tax Administration argued that the benefit was not stabilized while taxpayers alleged that the benefit still applied to them since they were protected by their stability agreements. On the other hand, the Tax Administration changed its strategy. As mentioned before, the combination of economic stability, legal framework and sectorial investment opportunities has made investment in Peru boast since the last decade. The greater investment in infrastructure and public services should help to transform our economy and make it more competitive. In connection to this, on January 22, , the Peruvian Minister of Economics and Finance publicly stated⁸: That is the reason why in this stage of our reform process I will say that our great challenge is infrastructure. Other important projects are those related to the regional airports, which involves promoting private investment in a number of airports and landing strips around Peru that are currently managed by the Civil and Commercial Aviation Peruvian Corporation CORPAC ; ⁹and the Bus Station System project in Lima. This idea came as an initiative from the Municipality of Lima due to the great demand for ground transportation in the city and the ever growing number of terminals in downtown Lima. The objective of this project is to create a bus station system that includes adequate locations and quality of service, provides urban reordering and rescue the historic downtown attractions. The project includes the construction, operation,

maintenance and exploitation of terminals. This project will increase trade with our neighboring countries allowing the latter, Bolivia and Paraguay to use Peruvian south ports to export and import their products through the Pacific Ocean.

WHY HAVE INCENTIVES AND DISINCENTIVES Contract incentives are designed to obtain specific acquisition objectives by motivating contractor efforts that might not.

Regulators should be allowed the flexibility to use either mass- or concentration-based standards to achieve their goals. While the analysis was approached from, a multi-media perspective, a focal point of the study was to examine incentives and disincentives that are driven by EPA, state, and local water Droqram requirements and objectives. Because; incentives and disincentives that: Since the majority of metalplaters discharge industrial wastewater to Publicly Owned Treatment works POTWs , the principal emphasis was on incentives. The objective of the incentives study is to present information and findings that; would help the Agency better understand aspects of decision-making with respect to, industrial dischargers. Much- of past water program efforts have been driven, if not by direct "end-of-pipa" statutory and regulatory requirements,, then at least: StriTof completed telephone contacts. Limits for ttetal Finishers a 5 d As of August Metal Fiiiishiiig Point Source-category, p. Sits are easy to measure for ocopliance. This is not to say the technology flow ffileasurements have not been necessary and so few shops take them. The extent to which. It is ijsportant -to. S9 for encouragement cT poUution prevention-or it can put up barriers,. Tha plan had to. If ; for example, a plating shop no longer has a wastewater discharge, then the water treatment steps- which allow reuse of the water in the shop may no longer fit the RCRA exemption for hard-pipedprocesses of wastewater treatment systems. Some POTWs make annual inspections of plants certifying that they have no process. The air streams are rarely tested to verify that no metals or. Once the system is in place people may have a disincentive for further reduction. One problem this gives rise to is an SnwillSgneS to innovate and a lack of support, of. They are then in Ssition. Furthermore, the focus of pollution provides a level of complexity and interest to the nob which could be lost under the more superficial required under the General Pretreatment Regulations At a recent EPA conference on pollution prevention, JDr. Philips ofthe Sanitation Districts of los. A nuntoer of water quality studies and reclamation projects were required of SBDA in granting the deferral. Continuing concern over heavy metal concentrations in the aroS TfrcS these plants, however, led to the inclusion of retirements in their amended NPDES permits in 55 s other means 4. Sunnyvale - significant source of nickel, silver, cadmium and lead. San Jose - selenium; significant source of copper, silver, zinc, and cyanide. Sunnyvale - significant source of copper, lead, arsenic and silver.. Palo Alto treatment plant was estimated to come from this source. Finishers, slectropiaters and other aotentially inportant sources. Be tailored to address the targeted industrial sector s. The S tS Regional. Public outreach and educational programs would also be an important component of the Regional. Based on their experience and findings in meeting the. Sewer Use ordinance Revision - waste minimization audits required for permit issuance and following industry discharge violations waste Minimization Study WMS Review Process - Industries identified as being "major contributors" of. Eollowing Wffi acceptance by. Waste Minimization Program Status Report - these reports document program accomplishments and procedures as they develop. By encouraging information sharing between local pretreatment programs and recognizing program accomplishments, the Regional Board has generated a healthy competitiveness between the local programs. California Department of Health Services. Toxic Substances Control Program, Toxic Substances Control Program, May Lessons for the u. Lo, Philip, "Pollution Prevention: A row," los Angeles County Sanitation D: April Govent uxsaxou, CA, Dec. July July 24, TVawq- united States Environmental protection Agency, June , , Washington, DC. They have installed recovery systems for most of the coolants that they use to machine and grind parts. Some metalworking companies discharge such waste streams, laden with FOG and metals, to POTWs; others ship off substantial quantities as hazardous waste. Allied uses filters and centrifuges to remove metal chips and tramp oils, and then makes up the evaporative or dragout losses with water and coolant concentrate. They have found that by maintaining the coolant, rather than allowing it to become more and more contaminated until it must be discarded, they, improve the quality of the machining process and eliminate scratches. The company chose to install the recovery systems, to save on waste disposal and fresh coolant costs. They did not do a rigorous

economic analysis, nor will they; they had sufficient information to make their decision and they have been pleased with the outcome. One possible hypothesis would be that rough estimates to. Fernando Originals Providence, RI A subsidiary of Erwin Pearl, Fernando Originals designs and manufactures costume jewelry for department stores and other upscale outlets. They have received an award from the Office of Water for their zero discharge wastewater treatment system. Both new to this company, Michael Weingast and Abel Santos believed the zero discharge system had been installed to cut water costs and to reduce the impact that changing regulations have on cost. In answer to our question as to whether, as a jewelry manufacturer, they would be more insulated from recession than the job shops we had seen, they said that they. In the first place, costume jewelry tends to- be somewhat reces. Secondly, they take a product from concept or sample,. If costs associated with plating go up they have many more business areas over which to distribute the cost than would a job shop. Plating actually represents less of the cost of the. We examined the; tumbling and phosphating lines. The company had been taking advantage of a -categorical designation for a defunct air pollution abatement" system a wet rotoclone which used water to capture airborne metals from a grinding operation to dilute their categorical metal coating waste stream. During a multimedia inspection, the MA Department of. UBWPAD required that they drop the metal and FOG loadings from the isolated metal finishing waste stream, which would otherwise have been in violation of the categorical standard for zinc and the FOG limit. Jamesbury chose to use pollution prevention to come into compliance, with strong encouragement from the state and-the POTW and with specific how-to information provided by the Mass. The firm had previously used an ion exchange system to polish the metal finishing waste stream before combining it with the rotoclone stream; prior to-the inspection they had disconnected the system without notifying the POTW because of difficulty maintaining it. They chose to implement pollution prevention options counter-current rinsing, dead rinses, reactive rinsing, and flow controls rather than to reinstall the resin columns. One management adjustment that they made was to raise the job grade of the operator of the metal finishing line and put a skilled, reliable person in that position. This case illustrates the value of enforcement in triggering pollution prevention activity. Representatives of the firm had already attended workshops describing the particular changes they eventually implemented and had not taken any action. Free on-site consultations had been offered; but they availed themselves of the opportunity only after the inspection. They chose pollution prevention to come into compliance. They implemented changes inexpensively, saved money on chemicals and labor, and no longer. Ws MnageSent finally bought in. Jatment program, and we wanted to pursue the question of what distinguishes pretreatment program,managerswho are within the plant, the. Hadfield maintains that the. Ultimate goal is zero discharge, but ; facility is proceeding in phased implementation steps. Tn Phase One good operating practices were defined. These include defining minimum water quality standards; , using Undercurrent rinses to reduce water usage; using. Phase Three is designed to verify closed-loop technology on a single process. This was conducte cadmium, chromium, and nickel stripping, and 3 titanium descaling were already on the drawing boards. Initial plans were revised to incorporate countercurrent rinses; ion exchange; atmospheric evaporation? Phase Five was to install the plating lines. Phase Six involved renovating remaining existing processes, including cadmium cyanide plating and chromating. The facility encompasses I., square feet. It was discharging 1., GPD of treated wastewater, , GPD of which was generated from metal finishing operations. Anticipated payback time is -less than two years. Raw material costs have been reduced by. Transportation and disposal costs and associated liabilities, have also been reduced by the same order of magnitude due. Contacts and Citation 7.

Chapter 3 : Tools of Change - Financial Incentives and Disincentives

Financial Incentives and Disincentives What is this Tool? Incentives, such as discounts and bottle deposits that entice people by rewarding them for taking action.

Ana Teresa Tavares-Lehmann Language: Columbia University Press Format Available: Governments often use direct subsidies or tax credits to encourage investment and promote economic growth and other development objectives. Properly designed and implemented, these incentives can advance a wide range of policy objectives increasing employment, promoting sustainability, and reducing inequality. Yet since design and implementation are complicated, incentives have been associated with rent-seeking and wasteful public spending. This collection illustrates the different types and uses of these initiatives worldwide and examines the institutional steps that extend their value. By combining economic analysis with development impacts, regulatory issues, and policy options, these essays show not only how to increase the mobility of capital so that cities, states, nations, and regions can better attract, direct, and retain investments but also how to craft policy and compromise to ensure incentives endure. Modern society cannot function without a high level of investment, just as it cannot function without a high level of taxation or its equivalent in communist countries. Both investment and taxation as a source of government revenue are important for the level of production and employment. No wonder then that governments are faced with an increasing dilemma between higher taxation on the one hand and the need for stimulating investment by tax reductions or allowances on the other. Related to this is the choice between a market economy which is as free as possible and detailed governmental measures for monitoring and steering investments, not only with the intention to promote economic growth but to further a number of other social interests as well. This is to some extent a political issue but the decisions it involves should still be based on sound economic facts and considerations. The present book gives a lot of information on this subject. It endeavours to create a conceptual order in the somewhat chaotic multitude of incentives practised by the main industrial countries and studies their economic effects. The authors are well equipped to do this because they were closely involved in the study on this subject made by Erasmus University Rotterdam at the request of the Common Market Commission. Organisation for Economic Co-operation and Development Language: This report examines the effects of government incentives and disincentives on the international investment process so as to achieve a better understanding of the determining factors at work in this process, and to provide indications of the impact of such measures on international direct investment flows and on the competition between governments in the area of incentives and disincentives for direct investment. International Monetary Fund Format Available: We compare the general tax provisions and investment incentives in the Philippines to six other east-Asian economies-Malaysia, Indonesia, Lao, Vietnam, Cambodia, and Thailand. We calculate effective tax rates and find that general effective tax rates are relatively high in the Philippines, while investment incentives are comparable to those in neighboring countries. Tax holidays are most attractive for very profitable firms, creating redundancy, and for investment in short-lived assets. We also consider recently-proposed tax reforms that would replace tax holidays by a reduced corporate income tax rate or a low tax on gross receipts. The results suggest that this would result in stronger incentives to invest, while government revenue increases. Alternatively, replacing holidays with a general reduction in the corporate tax rate and offering accelerated depreciation will either not provide the same incentives or be very costly.

Chapter 4 : Peruvian Tax Incentives/Disincentives To Investment In Utilities - Tax - Peru

REGULATORY INCENTIVES AND DISINCENTIVES FOR UTILITY INVESTMENTS IN GRID MODERNIZATION Steve Kihm, Seventhwave Janice Beecher, Institute of Public Utilities.

Type 1 Incentive for Saving: It is the institutional environment that influences savings and investment. Sound state policies with good governance contribute real per capita income to go at a higher rate, and not bad policies and bad governance. Institutional change is now considered as a central force or input affecting growth and development. By creating the incentive structure in the economy, institutions can strongly influence savings and investment. In developing countries, institutional setting is dichotomised. In the money market, one finds predominance of informal credit markets that act as a drag on development. Because of the lack of formal financial sector, lending is mostly confined to meet consumption needs. Further, because of high interest rate charged by the informal money market, total investment is discouraged. Further, the lack of formal financial institutions is an incentive on the part of the savers to put their money in real assets as opposed to the monetary assets. Obviously, in this institutional setting, investment does not pick up. Like the money market, the institution of capital market in the developing countries is also underdeveloped. How to Raise Savings: The capital formation depends on: What is of great importance is how to raise aggregate savings. In developing countries, informal financial institutions play a great role in the generation of savings. In these economies, many transactions take the form of barter. People save in real assets. Moneylenders charge high interest rates while loans are mostly given to meet consumption needs of the borrowers. Given these savings-investment patterns, banking and credit institutions need to be developed as these institutions act as stimulus to savings and investment. A large investible surplus is available only when institutional arrangements of an economy are broad and wide. The greater use of money releases both resources and helps in savings and in generating resources. A formal organised money market charges a lower interest rate which helps in raising the volume of savings. Above all, savings in these institutions are risky and, hence, unsafe. Informal savings or deposit-accepting institutions often harass customers in one pretext or another. Some of the owners of these institutions, in the past, pulled down their shutters without returning back the hard-earned savings of the customers. Further, lending of the formal money market is meant mainly for investment purposes and that too is available at a cheaper rate compared to the informal credit market. Thus, developing a well-organised formal banking institution is one of the first priorities to incentivise savers. Along with this, the fragmented capital market that allocates capital in a distorted and in an inefficient way also needs to be developed. It is also important that capital market should be integrated with the money market so as to have a unified interest-rate structure. At the time of independence, both informal and formal sectors coexisted in which the former predominated. Over the years—and particularly after the nationalisation of commercial banks in —the banking sector has developed in length and breadth. As a result, the volume of household savings as a percentage of GDP that stood at 9. That is why people are encouraged to invest their money in shares, debentures, bonds, small savings schemes, etc. Household savings are now being channelized not only through banking institutions but also through non-banking financial intermediaries like the UTI, LIC, GICI, mutual fund, special development banks, and micro-credit institutions. These institutions also promote corporate savings. Fiscal policy and taxation also play an important role in raising savings capacity of the economy. The volume of household savings depends on income el and the interest rate on savings. A higher interest rate is an incentive to the savers. But investors find little incentive to invest if banking situations charge higher rates of interest. Thus, banks need to balance these two aspects. Further, cut in tax rate enables individuals to save more. Higher tax rate acts as a deterrent to savings and investment. To give boost to investment, corporate tax rates may be cut; tax exemptions or tax holidays in different investment projects may be given. Another component of gross savings is government or public savings which are generated from profits of public sector enterprises. Besides social welfare objectives, these enterprises also run on commercial basis. Profits made by public sector enterprises are reinvested. Above all, neo-liberal economic policy introduced in aims at privatisation of these enterprises. Anyway, public sector industries need to be expanded

and should also run on commercial basis. Development in developing countries is associated with industrialisation and industrialisation and capital accumulation go hand in hand. It is not necessarily true that an increase in savings will lead to an increase in investment. Even if investment rises the institutional prerequisites for development may be lacking. In other words, because of lack of proper investment incentives, capital formation tends to be low in the developing countries. To push the investment rate up, the following steps need to be taken: These, in turn, require favourable institutional environment, that is, primarily, an appropriate industrial policy that affects industrial investment and production. Industrial policy focuses on lot of things other than fiscal and financial policies. It defines the scope of state participation in economic activity. It then suggests that incentives for investment may be addressed both by the market and the state. We are not interested in elaborating the debate between market and the government. Capital market or the share market is an important institution through which the flow of funds is generated in an economy. Share market is characterised by booms and slump consequent upon so many domestic and external factors. This then pushes investment up. Macroeconomic stability refers to manageable fiscal deficit and the balance of payments deficit in tandem with low inflation. To give a boost to investment, governmental investment is also required to be stepped up but not at the cost of fiscal slippage. To encourage investment, tax exemptions, lower rate of taxes, etc. However, capital accumulation demands an improvement in economic and social infrastructure. Just as the productivity of physical capital depends on investment in human capital, so it depends on the infrastructural investments, say, on road, power, irrigation, etc. The need for different types of infrastructure changes with economic development. However, inefficiency and waste may creep in such infrastructural investment. To minimise waste and to improve efficiency, commercial principles need to be applied. Managerial autonomy may be given. Finally, foreign direct investment needs to be pumped in to increase capital formation. This then requires liberalisation of industrial licensing policy. Reforms in the capital market are required so that foreign institutional investors can participate. Truly speaking, this requires a combination of restrictions and incentives. It may also restrict foreign participation in ownership or management, limit the volume of profits, impose exchange controls on the repatriation of capital or profit.

Human beings respond "often powerfully" to both incentives and disincentives. An understanding of this great truth is critical for sound public policymaking. When lawmakers ignore it, they raise taxes and then wonder why people don't work as hard or save as much.

Regional Water Quality Control Board 49 4. The objective is to assist EPA and other regulatory agencies in designing programs to encourage companies to consider and implement pollution prevention approaches -- specifically, in the context of determining how best to meet water quality and effluent discharge obligations. Much of past water program efforts have been driven, if not by direct "end-of-pipe" requirements, then by an "end-of-pipe" mentality or approach to interpreting the requirements. Fuller understanding of the incentives and barriers faced by industry should help regulators build pollution prevention into their regulatory and compliance programs in a more meaningful way. While there is a range of factors that affect decisions by facilities to either adopt or fail to adopt pollution prevention measures, it seems there is often one key motivator --or "trigger" incentive -- which can make the other acting incentives more compelling, and which has the power to overcome the other disincentives. Trigger incentives will vary depending on facility size and type, compliance history, and regulatory motivation for pollution prevention. In many instances, enforcement action, coupled with a goal of working with the company in terms of both regulatory flexibility and technical assistance toward a pollution prevention solution, has been a strong trigger incentive. General Findings The key motivational incentives and disincentives we found during the course of this study are the following: Flexibility achieves its optimum value within a multi-media framework. Multimedia inspections, for example, encourage a comprehensive examination by both plant and compliance personnel for cross-media environmental improvements. This reduces the risk of narrow, single-media solutions that can simply produce shifting of pollution. Companies are profit-motivated and while pollution prevention can hold the promise of future cost savings, if capital is needed for such changes, companies can find themselves in a Catch type situation. Lower operating costs could improve profits, but the extra capital may simply not be available to pay for the necessary improvements. This is especially true of firms with low profit margins and who are perceived by lenders to be a bad investment risk. For those companies who can raise the capital, pollution prevention measures still hold an element of risk -- they can be technically more complex, require higher skill levels to operate and maintain, and they sometimes fail to provide the kind of compliance "certainty" an end-of-pipe system can engender. Particularly for small companies that do not have the resources, personnel, or expertise to pursue and obtain reliable pollution prevention information, a network of technical assistance is vital. Whether the assistance comes from state programs, POTWs, EPA, trade associations, or vendors, is not as important as the fact that a system of information dissemination and technical expertise is out there reaching companies who need it. Larger companies have more technical resources on hand to experiment with in-process changes. Small and medium-size firms may need both technical assistance and financial incentive mechanisms -- tax breaks, low-cost loans, matching grants, etc. Open Communication An open door policy that allows all stakeholders to have a say in how best to optimize pollution prevention opportunities is key. This is true for both companies and regulatory agencies. Upper management support for the principles of pollution prevention can make all the difference when either regulatory staff permit writers, inspectors or plant-level personnel engineers, shop foremen, workers have ideas they would like to see put into practice. Innovation and effective communication will always remain the heart of pollution prevention. INCENTIVES corporate policy supporting pollution prevention or incorporating it into strategic planning no upper management commitment to pollution prevention accountability within management structure for integrated i. Regulators should be allowed the flexibility to use either mass- or concentration-based standards to achieve their goals. The IPS is an Agency-wide, multi-media project, the objectives of which are to: This study examines some of the key regulatory, economic, technical, and institutional incentives and disincentives affecting decisions by industry to adopt pollution prevention measures. While the analysis was approached from a multi-media perspective, a focal point of the study was to examine incentives and disincentives that are

driven by EPA, state, and local water program requirements and objectives. Because incentives and disincentives that affect decisions to adopt or not adopt pollution prevention need to be considered within the concrete context of specific alternatives faced by particular facilities, this study focused on a single industry. We were asked to focus on the Metal Finishing Industry in particular. Since the majority of metalplaters discharge industrial wastewater to Publicly Owned Treatment Works POTWs, the principal emphasis was on incentives and disincentives faced by indirect dischargers; however, direct dischargers i. The objective of the incentives study is to present information and findings that would help the Agency better understand aspects of decision-making with respect to industrial dischargers. Much of past water program efforts have been driven, if not by direct "end-of-pipe" statutory and regulatory requirements, then at least by an "end-of-pipe" mentality or approach to interpreting statutory and regulatory requirements. The objective of this study is to assist EPA and other regulatory agencies in designing programs to encourage companies to consider and implement pollution prevention approaches in the course of determining how best to meet their water quality and effluent discharge obligations. The site visits were undertaken in order to obtain a fairly detailed assessment of particular decisions at a limited number of facilities, including record review where possible, tour of plating shops, tour of wastewater treatment plants, and in-depth interviews and meetings with facility personnel and knowledgeable EPA regional, state, local, and POTW representatives. In addition to the detailed assessments, more general assessments of decisions at a larger number of facilities were undertaken, largely through telephone interviews and database or literature searches. Literature data and other case study reports were obtained from a variety of sources, including the California Department of Health Services and the Massachusetts Department of Environmental Management. In addition to the site visits, case studies, and literature reviewed, telephone contacts were made with metalplaters and state and local both regulatory and non-regulatory personnel in other geographic regions, including California, Florida, Illinois, Minnesota, and North Carolina, to obtain a broader perspective on the national range of incentives and disincentives faced by platers. Subsequently, follow-up contacts were made with both industry and POTW representatives on the Focus Group to clarify comments and further explore ways to improve the report. Section 4 offers a detailed case example of a regulatory POTW program that illustrates how incentives and disincentives can function together to motivate a change to pollution prevention. The Appendices contain more specific information about the case studies and site visits completed for this project. Appendix C is a matrix of completed telephone contacts. A facility will most likely adopt pollution prevention measures when it is being acted upon by an array of incentives. Likewise, it will be the cumulative effect of a number of disincentives which makes a company decide not to do pollution prevention. Sometimes, Incentives and disincentives tend to cancel each other out -- i. For example, the economic incentive of potential cost savings due to decreased environmental management expenditures lower disposal fees for less toxic waste, lower chemical usage, etc. This is especially true of certain metalplating firms which have low profit margins and are perceived by lenders to be a bad investment risk. Sometimes, it seems there is one key motivator, or "trigger" incentive which, once activated, makes the other acting incentives more compelling, and which has the power to overcome the various disincentives. Enforcement -- whether in the context of bringing a firm into compliance or implementing new requirements e. If the enforcement or compliance message supports pollution prevention and is flexible towards allowing for the necessary time and resources a facility needs to explore and implement such solutions, then the disincentive hurdles may be lowered just enough to make the facility "go for it. On the permitting side, those involved in developing regulations, as well as the permit writers who must translate those regulations and requirements into permit conditions, need to be aware of the range of pollution prevention opportunities available for the industry sector under question. Unlike standard, end-of-the pipe, pollution control options, pollution prevention techniques and technologies may require more research and lead time to implement. On the compliance end, inspectors and enforcement personnel must be willing to work with those companies who are seeking pollution prevention rather than simply control solutions --no industry will try anything innovative if threatened with both the loss of capital and costly enforcement actions in spite of their best efforts. Many of the firms we visited would not have even attempted pollution prevention alternatives if they did not have the support of both regulators and compliance personnel. Although flexibility

is key, even within a single media regulatory framework, it achieves its optimum value -- pollution prevention-wise -- when it occurs within a multi-media framework. Multimedia inspections, for example, may identify opportunities or threats to more than one media and reduce the risk of narrow, single-media solutions that can simply produce media shifting of pollution. Multimedia inspections encourage a comprehensive examination by both plant and compliance personnel for total environmental management opportunities. When such inspections are augmented by technical assistance programs -- especially for small to medium-sized firms -- there is a higher likelihood of a facility actually adopting pollution prevention measures. On the other hand, the largest disincentive for any firm considering pollution prevention is concern about the difficulty real or perceived of working with permittees and inspectors who are inflexible, who might not listen to their innovative ideas, who may -- regardless of intent or potential for quality environmental benefits down the road. This is also where a single media regulatory and compliance framework works as a disincentive. A case in point is the issue of threatened RCRA Part B permitting for those facilities considering "zero discharge" solutions. Unless all the media programs present a unified, pollution prevention-friendly front, a firm will be less likely to "take the risk. Companies are profit-motivated, and while pollution prevention measures can hold the promise of future cost savings, if capital investment is needed for such changes, companies -- especially low profit margin platers -- can find themselves in a Catch 22 type situation. Lower operating costs could improve profits, but extra capital may not be available to make the necessary improvements. In addition to the "sunken investment" that system represented, the firm operated on such a low margin, they could not tolerate downtime for major equipment changes. There were also space considerations -- multiple rinse tanks would take up more linear space than available in the current location. Moreover, their financial situation was so precarious that no bank would consider them for a loan. The pollution prevention economic incentive "carrot" in such cases is therefore quite useless unless accompanied by some means of facilitation -- such as low cost loans or tax breaks for equipment upgrades. In a very competitive industry, customer satisfaction is key. The "job shop" service sector of the surface finishing industry lives and dies by serving the needs of a variety of customers. The job shop that gives the best turnaround time at the lowest per part cost will get the most business. The customer wants quality plating at low cost according to his time schedule -- he is usually not really interested in how that is done. In considering pollution prevention measures, especially those involving changes in plating chemistry, concern about potential customer dissatisfaction with the new product or with longer turnaround times is real and a very potent disincentive. One plater spoke about how his largest customer wanted the insides of a computer housing cabinet plated with copper cyanide one of the more toxic plating chemistries, because he was presenting the item at a trade show and wanted the inside of the cabinet to show off "that pretty blue color. There is a difference between large and small companies in terms of the level of capital investment and their ability to 10 Table 2. Large companies with captive plating shops, such as in the aerospace industry, can absorb more risk -- both in terms of investment and in the regulatory arena. They also have more technical resources on hand to experiment with in-process changes. However, both large and small companies cannot ignore customer satisfaction concerns. Particularly for small companies that do not have the resources, personnel, or expertise to pursue and obtain good technical information, a network of technical assistance is vital. Whether the technical assistance comes from state programs, POTWs, EPA, trade associations, or vendors, is not as important as the fact that a system of information dissemination and technical expertise is out there reaching companies who need it. As success stories build and innovative technologies become more commonly used, a domino effect can ripple through an industry- Five years ago, aqueous parts washing systems were fairly new, used by only the more adventurous firms. Today, with the phase-out of TCA and other ozone depleters, as well as growing regulatory discouragement towards chlorinated solvents of any kind, aqueous systems are finding their way into even the most staid shops. This is due to the concerted effort of all technical outreach channels. Continued, coordinated technical assistance and outreach are the most appropriate tools for industry-wide progress in pollution prevention. As discussed in section 2. Pollution prevention may take place because of an enforcement action, but not all facilities industry-side face such actions. Technical assistance and outreach is the best way to reach all facilities -- including those in compliance -- and show them

how to not only "meet their limits," but go beyond. This is a problem faced mostly by smaller companies who rely more on outside expertise. Any vendor can set himself up as a pollution prevention "expert. The problem is the vendor who sells the equipment then either goes out of business or renegs on his guarantees. One way to deal with this issue is to provide facilities with approved vendor lists or to initiate some sort of vendor certification program perhaps through one or more trade associations. The same goes for interactions between regulators and the regulated industry. At one facility we visited, Parker Metals see Appendix A , the Environmental Coordinator was forbidden by his management to call EPA with questions because of an incident in the past when one of those "innocent little questions" caused a party of inspectors to come pay an unscheduled visit. For larger companies, an incentive for undertaking pollution prevention is the opportunity for improving their public image. For TRI reporters, reducing the release of toxics and moving lower down on the list of "top polluters" can be a way to demonstrate corporate environmental progress. Such good press can often translate into increased revenues as the company becomes perceived as being pro-environment, or at least more environmentally conscious than other competitors. Even for smaller companies, any kind of positive reinforcement -- such as articles in the local paper or in a trade journal -- can make a difference and encourage them to continue pursuing the goals of pollution prevention. DISINCENTIVES corporate policy supporting pollution prevention or incorporating it into strategic planning no upper management commitment to pollution prevention accountability within management structure for integrated i. The six main findings are:

Chapter 6 : Incentives and Disincentives for Adoption of Pollution Measures Under the Water Program

Investment needs are likely to grow as electric utilities make power systems more reliable and resilient, deploy advanced digital technologies, and facilitate new services to meet some consumers' expectations for greater choice and control.

Chapter 7 : International Investment Incentives and Disincentives - OECD

Investment Incentives and Disincentives, Second Revised Decision of the Council, May)4 Against this background the Committee has agreed on a Checklist for.

Chapter 8 : Industrial Pollution Prevention: Incentives and Disincentives

incentives (positive gaps) or disincentives (negative gaps) are present at farm gate and wholesale level. In relative terms, the price gaps are expressed as Nominal Rates of Protection.