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TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY? (*)

Introduction

Transfer pricing, like many other management decisions, is a multidimensional question without an absolute answer. There is too much variance in the selection of an "optimal" dimension in which to measure the results to suggest that this paper will provide a collection of "right" prices. However, it will suggest a methodology for analyzing the problem from the perspective of a multinational like Pepsi–Cola with multiple tax and tariff exposures. The payoff is the potential for improving repatriable cash available from operations and/or reducing future external funds requirements. In the case of repatriation of funds from the Pepsi–Italy operation (Italy to Ireland to US), with tax rates varying from 55% (Italian nominal rate) to 23% (Irish nominal rate), the choice of transfer price has considerable impact.

The paper is organized in 6 sections. Section 2 is a discussion of the theory behind transfer pricing policies. Section 3 develops a model for analyzing the Irish–Italian transfer pricing question. Section 4 generalizes the analysis to include exchange rate movements and to allow for different tax regimes. Section 5 discusses an implementation issue: goal congruence between corporate and area managers. Section 6 presents a summary and extensions of the model.

(*) Technical note of the Research Department at IESE.
Prepared by Professor Pablo Fernández. January 1991.

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The theory

The transfer pricing system is the primary mechanism for allocating costs between decentralized subsidiaries of firms. When there is a constant tax environment for all subunits, the basis on which those costs are allocated has little direct economic impact, so the prices are generally chosen to satisfy the corporate control functions of maintaining goal congruence among managers, contributing positively to subunit production effort, and helping to avoid or at least identify dysfunctional decision making (decisions where the benefit to one subunit is more than offset by losses to another). However, when the subunits operate in different regulatory environments (countries), there is another dimension to the analysis.

Although there may be reporting and measurement differences in calculating tax liabilities for the subunits within their respective economic regimes, the largest potential cash impact comes from the difference in income tax rates between countries. Assuming that revenues are independent of the subunits' ability to report a profit, there are potential gains from recognizing those profits in the lower tax environment. Complicating the scenario, however, are differences in the way in which certain transfers of wealth are taxed: for example, withholding taxes on dividends versus taxes on retained earnings and tariffs on transferred product. Nevertheless, there would appear to be some potential gains to be had from being able to elect the regime in which to pay taxes.

Beginning with the goal of maximizing after-tax cash flows from operations (to maximize firm value for the shareholders and minimize future external funds needs), it is appropriate to measure success in terms of total repatriable funds generated by the activity. Those funds in excess of operating costs, G&A, and direct operating expense may be either reinvested (retained) or distributed back to the parent in the form of dividends, interest payments, principal repayment, or expense (i.e. transfer cost and franchise fees). The choice between retaining versus repatriating can be divided into two categories: retentions needed to continue operations, and retentions intended to defer realizations of tax liability. Funds in the second category are of little value to the investors in the parent unit, so it is reasonable to conclude that the optimal policy is to maintain only the minimum capital needed for operations and repatriate the balance.

Relying on debt as a transfer mechanism for repatriation is subject to market constraints on interest, as well as being threatening to the subs' "going concern" status. Allocation of expenses (cost of goods, coop advertising, parent G&A, parent services) etc. allows flexibility in results as long as predictions regarding revenues are fairly stable. Of these expense categories, the one offering maximum latitude to the parent is the transfer price, since a charge does not require specific corresponding costly actions (as is the case with advertising and parent participation projects). Further, due to the proprietary nature of the transfer price calculation, it is the most difficult for the authorities to refute.

Optimal prices

The above theory is developed for a two-tier system. In the case of Pepsi–Cola Italy, funds must travel from Italy (bottling and distribution) to Ireland (manufacturing) to the US (parent). However, since Pepsi–Cola is a large multinational with a US surplus of foreign tax credits, there is some question about whether there will be any US tax exposure for the Irish–US revenue leg. Consequently, total repatriable (before paying US tax) funds from operations in Ireland is the appropriate target asset for maximizations, so the two-tier structure is suitable.

Now, with an Italian tax rate of 55% versus an Irish tax rate of 23% and a mechanism for choosing between the two, the intuitive conclusion from the theory is that transfer prices should be set so that Italy never operates at a profit (tax liability always occurs in the low tax environment). In fact, Pepsi–Italy has historically operated at a loss, implying that this has been the dominant policy. Examining the actual profit chain, however, produces a surprising result.

Exhibit 1 pro formes the repatriable funds from Italian operations under a continued policy of operating at a loss. There is a minimum required equity base for companies operating in Italy, which complicates the analysis slightly. In order to maintain that minimum level of equity capital it is necessary to replace the annual losses with "new capital", which is treated as a shift between equity accounts of the parent company. However, this means that taxes of 23% are being paid on funds that are essentially nonrepatriable. Exhibit 2 looks at the impact on total retained earnings (repatriable cash for the parent) under different transfer prices (column 1). Interestingly, the total repatriable cash varies from $1,914,000 to $3,724,000, with a peak at a price of $348. Additional Exhibits in Appendix 1 (nos. 3, 4, 5 & 6) repeat the exercise under slightly different operational assumptions (receivables extended from 30 to 180 days, and equity capital beginning above minimum). The implications are consistent: there is, under our assumptions, an optimal transfer price which is not consistent with the "intuitive" policy.

Adopting some simple notation allows the following "first cut" representation of the problem:

$\pi = (R_{it} - C_{ir}) - t_{it} * (R_{it} - TP) - t_{ir} * (TP - C_{ir})$ (subscripts indicate Italian or Irish)

π = repatriable profits (at US border)
t = effective tax rates
TP = transfer price
R = Italian profits before taxes and TP (assumed fixed)
C = Irish cost for Italian product (assumed fixed)

This formulation works well as long as taxable profits in both Italy and Ireland are positive ($R_{it} > TP > C_{ir}$). In fact, it works outside this region as long as the tax credits generated by losses can be carried forward or back within the respective tax environment. A graph of this equation (transfer price versus repatriable cash) is a straight line beginning at $(1 - t_{it}) R_{it} - (1 - t_{ir}) C_{ir}$ and extending upward without limit at the rate of $(1 - t_{it} + t_{ir})$. The problem is that there are limits on tax loss carryforwards. Italian operations, having historically operated at a loss, limit the benefit of future losses, so that the correct model is:

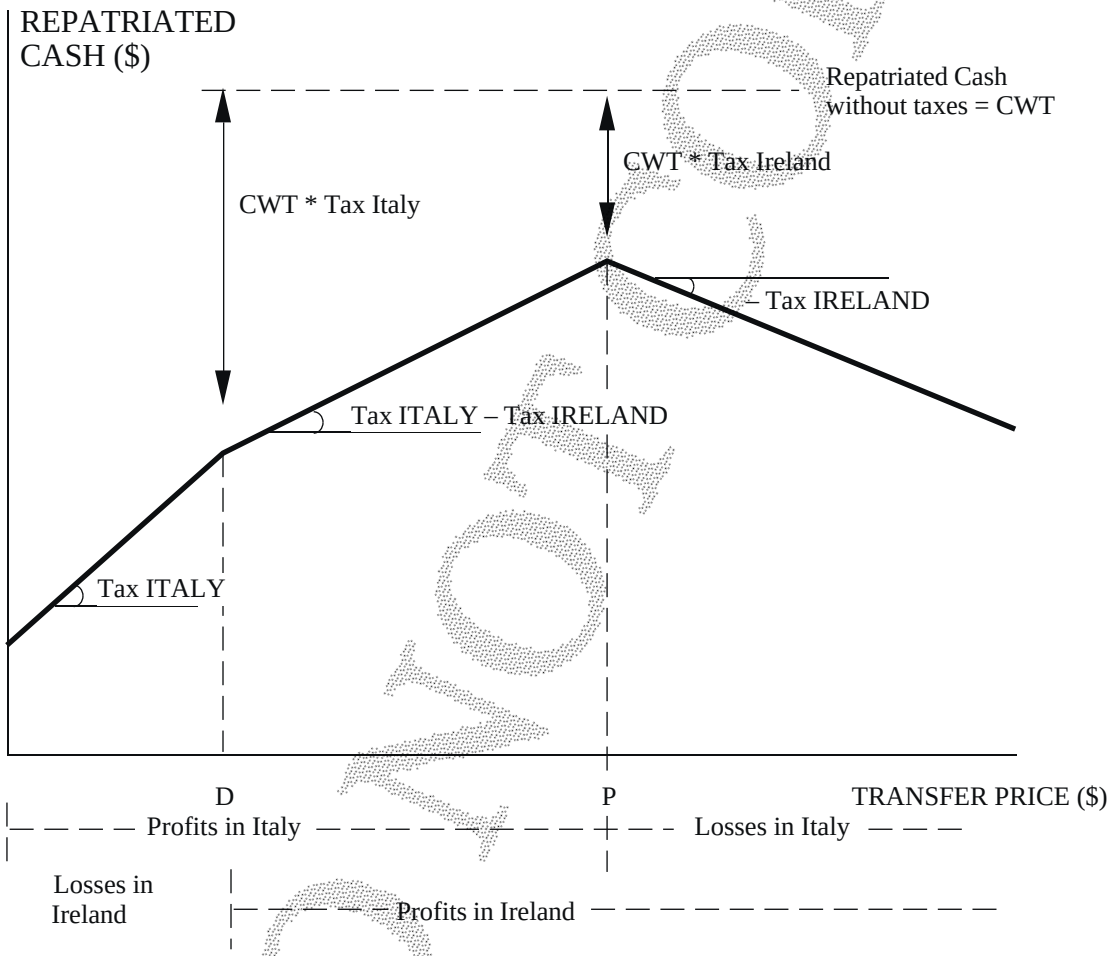
$$\pi = (R_{it} - C_{ir}) - t_{it} * \max [(R_{it} - TP), 0] - t_{ir} * (TP - C_{ir})$$

(the "max…" term means the larger of the two terms within the square brackets, i.e. taxable profits in Italy cannot be less than 0)

The same argument can be made for Ireland when projecting future cash flows, since the capacity to use tax losses will eventually be exhausted as losses continue. Figure 1 graphs the resulting equation to show the effect of changing the transfer price on repatriable cash. Now the peak shown in Exhibit 2 is explained. It occurs at the point (P) where Italian profits are zero (therefore no Italian tax and no "wasted" tax deductions). The other kink (D) occurs at the point where Ireland pays no taxes.

What is also interesting is that this graph demonstrates that the cost of revenue underestimation in Italy is no worse than the cost of an equivalent overestimation. The conclusion is that the transfer price should be selected so as to operate the Italian subsidiary at zero profits. This is quite different from the policy currently in place of operating at a continued loss, since it implies that annual results should vacillate between positive and negative. Although such vacillation is suboptimal (see Figures 3a and 3b in Appendix 1), on account of the time value of the funds, the normal variance in predicted income should create this fluctuation.

Figure 1. Approximation to the problem of optimal transfer price



D = Zero profit in Ireland **P = Zero profit in Italy**

D = f (Variable and fixed costs in Ireland, Interest rate in Ireland, Other intercompany charges)

P = f (Sales in Italy, Fixed and variable cost in Italy, Interest rate in Italy, Other intercompany charges, Exchange rate)

Assumptions: Tax ITALY > Tax IRELAND
FOREIGN TAX REGIME APPLIES

Floating exchange rate

Since the revenues generated by operations within Italy are denominated in lire, at some point in the repatriation process to the US the funds must be converted to US dollars. In the previous section, it was assumed that revenues were fixed and not subject to exchange rate exposures. That is obviously not true, although the volatility of the $/Lira relationship may be considered low. Assuming that there are movements, however, the question is: In which currency should the transfer price be denominated?

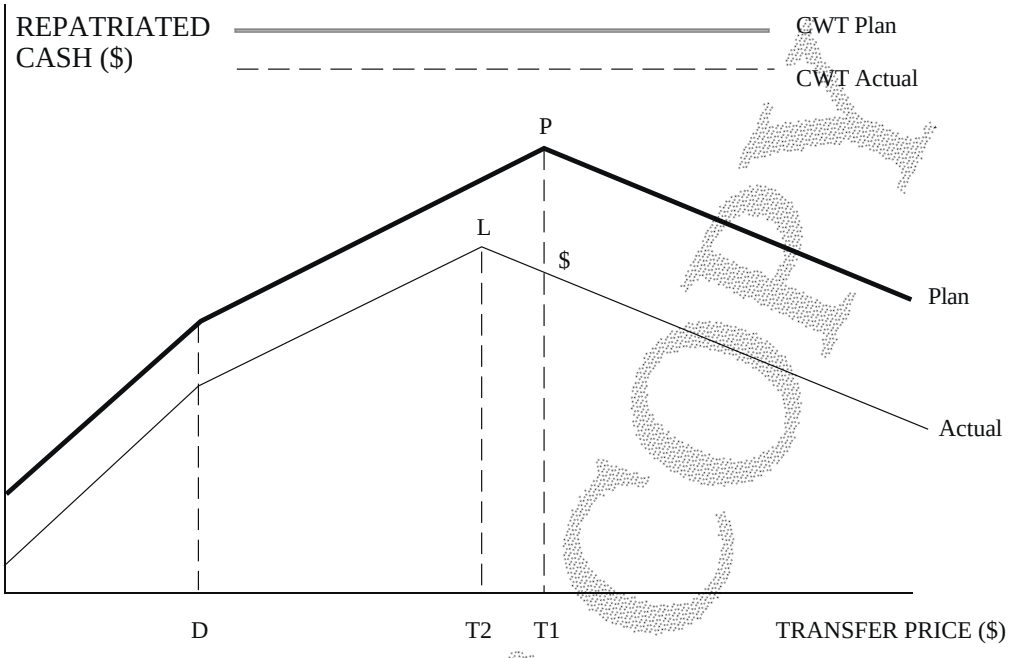
Figure 2 represents the relative direction of an appreciation of the dollar against the lira. The total product volume, as before, is assumed fixed, and furthermore the lira revenues are assumed fixed. The result is that the total funds from operations in dollars ($R_{it} - C_{ir}$) is reduced, as indicated by the lines "CWT Plan" and "CWT Actual". The subs will report a greater loss than they would have without the movement in the exchange rate if their costs (transfer price) are in $. The Irish sub still reports the same profits as before, but the losses in Italy must be offset by new capital, causing the loss of repatriable cash at a rate of $.23 for every $1 of loss in Italy. This might be described as the "opportunity cost" of forgoing the tax reduction in Ireland that would result from reporting the loss there.

However, if the transfer price is fixed in lire, the exchange losses go to Ireland, where they can be used to offset tax liabilities, so that the total tax expense is minimized. Figure 3 shows the equivalent shift in tax losses associated with a dollar depreciation against the lira. The conclusion is that the transfer price should be set in the currency of the high tax regime.

Goal congruence

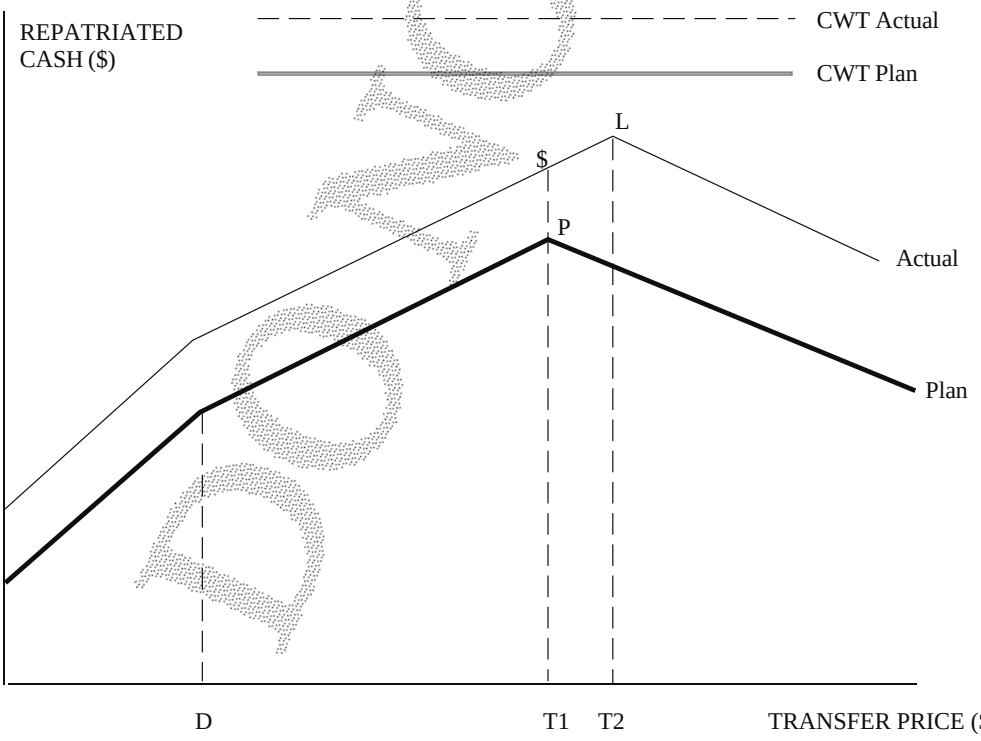
The behavioral impacts of the transfer price must be included by selecting appropriate measurement goals. All of the above analysis has assumed that the revenue generated within Italy is maximized. There is one disturbing element in the Pepsi control structure that is not consistent with producing that result: nopat. Managers are compensated on the basis of operating profits after taxes exclusive of interest expense. Although there are reasonable grounds for not holding management responsible for capital structure (debt vs. equity), there are other categories of debt that are excluded from their measurement number that they do influence. Most notable is the cost of carrying to management. Exhibits 3, 4, 5 and 6 in Appendix 1, along with the corresponding Graphs 1, 2 and 3, show the variance in retained earnings under nopat-maximizing management performance. Clearly, nopat is not quite aligned with the firm value maximizing behavior desired by the shareholders. A better dimension might be net profit after taxes including interest charges.

Figure 2. Effect of a dollar appreciation



T1 = Transfer price fixed in $ T2 = Transfer price fixed in LIRE D = Zero profit in Ireland

Figure 3. Effect of a lira appreciation vs. the dollar



T1 = Transfer price fixed in $ T2 = Transfer price fixed in LIRE D = Zero profit in Ireland

Conclusions and extensions

A summary of conclusions is presented on the page following Figure 4 under "Results/Recommendations". The most important of these is that accurate budget estimates and carefully structured transfer prices can improve the firm's value. In the case of Pepsi–Italy, the proper target is zero profits. Note that this goal still gives optimal results even when a US tax liability is assumed (see Figure 4).

Appendix 1 contains the results of varied assumptions about interest charges and nopat as a management evaluation tool. General case extensions of the model for other tax climates are best made by modifying the appropriate variables. In general, marginal costs of profitable operations in the high tax regime are (1 – high tax regime rate + low tax regime rate) per monetary unit. Marginal costs of losses in the high tax regime are (1 – low tax regime rate) per unit. Depending on the relative magnitude of these costs, transfer prices can be used to arrive at the most likely desired point. Appendix 2 demonstrates such an analysis.

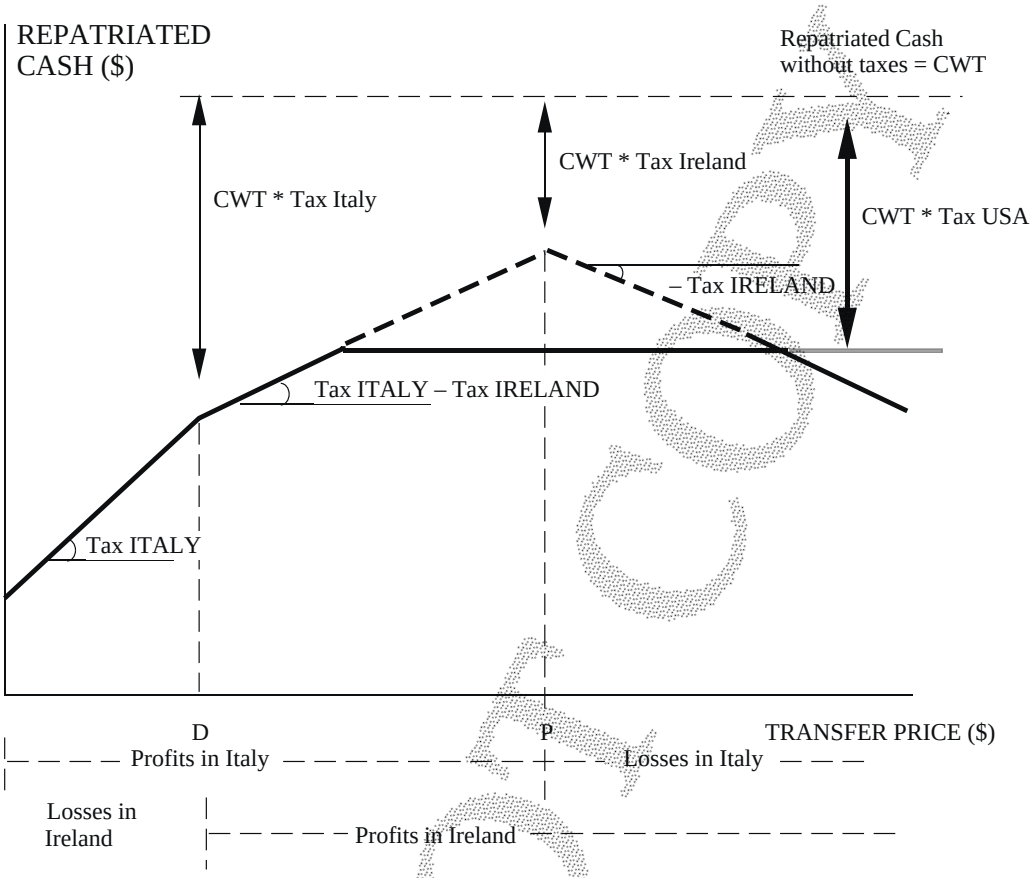
The model provides a useful way in which to think about the implications of alternative investment choices where differential tax rates are an issue. Appendix 3 is an application demonstrating the use of the framework to explain the ramifications of a particular tax policy (arguing for regulatory acceptance of flexible transfer pricing to attract investment).

For the reader's convenience, the final version of the model is repeated here:

$\pi = [R_{it} - C_{ir}] - t_{it} * \max [(R_{it} - TP), 0] - t_{ir} * \max [(TP - C_{ir}), 0]$
(subscripts indicate Italian or Irish)
(max [.....] means the maximum of the two terms)

π	=	repatriable profits (at US border)
t	=	effective tax rates
TP	=	transfer price
R	=	Italian profits before taxes and TP (assumed fixed)
C	=	Irish cost for Italian product (assumed fixed)

Figure 4. Approximation to the problem of optimal transfer price



D = Zero profit in Ireland **P = Zero profit in Italy**

D = f (Variable and fixed costs in Ireland, Interest rate in Ireland, Other intercompany charges)

P = f (Sales in Italy, Fixed and variable costs in Italy, Interest rate in Italy, Other intercompany charges, Exchange rate)

Assumptions: Tax ITALY > Tax USA > Tax IRELAND
FOREIGN TAX REGIME APPLIES

Results / Recommendations

1. For Italy / Ireland (taxes Italy > taxes Ireland)

- It is not optimal to run Pepsi-Cola Italy at a loss on a continuous basis. The optimal strategy is to have zero profits in Italy (Figure 1).
- The transfer price should be fixed in lire. This permits an automatic adjustment to the new optimum when the exchange rate fluctuates (Figures 2 and 3).
- The other (marketing, G&A) intercompany charges (from P-C Italy to Ireland) should also be denominated in lire. The same argument as for the transfer price applies.
- The Italian tax authorities are very reluctant to accept changes in the transfer price, other than inflation adjustments, so it is advisable to have some flexibility in intercompany charges, other than the exchange rate, to –at least partially– offset deviations from plan in volume and expenses.
- The nopat-based performance measure is not optimal. It induces managers to make decisions (e.g. inventory levels, collection period, credit negotiations…) that increase nopat, but reduce repatriated cash flow (Graphs 1 and 2).

2. In general

- It is not optimal to run a subsidiary at a loss on a continuous basis. The optimal strategy is to have zero profits in the subsidiary with the highest tax rate.
- The transfer price should be fixed in the currency of the subsidiary with the highest tax rate. This permits an automatic adjustment to the new optimum when the exchange rate fluctuates.
- Other intercompany charges should also be denominated in the currency of the subsidiary with the highest tax rate.
- It is advisable to have some flexibility in intercompany charges, other than the exchange rate, to –at least partially– offset deviations from plan in volume and expenses.
- The nopat-based performance measure is not optimal. It induces managers to make decisions that increase nopat but reduce repatriated cash flow and consolidated net income. □

Appendix 1

Effects of varying receivables holding periods, and NOPAT as a management control

Exhibit 1

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 30 days (000's $)

Price to bottler	735	$/Unit		Taxes:	
Transfer price	**600**	$/Unit		Italy	55.00%
Cos + F&I	60	$/Unit		Ireland	23.00%

	Year end 1					Year end 2					Year end 3				
	Italy	**Ireland**	**Adjust**	**Italy Total**	**	**Italy**	**Ireland**	**Adjust**	**Italy Total**	**	**Italy**	**Ireland**	**Adjust**	**Italy Total**
Units	5,000			5,000	**	5,000			5,000	**	5,000			5,000
Sales	3,675	3,000	–3,000	3,675	**	3,675	3,000	–3,000	3,675	**	3,675	3,000	–3,000	3,675
Cos	3,000	300	–3,000	300	**	3,000	300	–3,000	300	**	3,000	300	–3,000	300
Marketing	1,470			1,470	**	1,470			1,470	**	1,470			1,470
Contribution	–795	2,700	0	1,905	**	–795	2,700	0	1,905	**	–795	2,700	0	1,905
G&A	500			500	**	500			500	**	500			500
					**					**				
Nopt	–1,295	2,700	0	1,405	**	–1,295	2,700	0	1,405	**	–1,295	2,700	0	1,405
Tax	0	643	0	643	**	0	653	0	653	**	0	665	0	665
Nopat	–1,295	2,057	0	**762**	**	–1,295	2,047	0	**752**	**	–1,295	2,035	0	**740**
					**					**				
Interest E/(I)	–35	–95		–129	**	–35	–141		–176	**	–35	–189		–224
Net income	–1,260	2,152	0	892	**	–1,260	2,188	0	927	**	–1,260	2,225	0	964
					**					**				
Cash	693			2,585	**	694	2,818		3,512	**	694	3,783		4,477
Receivables	306	1,892		306	**	306			306	**	306			306
Affiliates		2,260	–2,260	0	**		3,521	–3,521	0	**		4,781	–4,781	0
Total assets	1,000	4,152	–2,260	2,892	**	1,000	6,339	–3,521	3,819	**	1,000	8,564	–4,781	4,783
					**					**				
Debt					**					**				
Capital	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000
Ret. earnings	–1,260	2,152		892	**	–2,521	4,339		1,819	**	–3,781	6,564		**2,783**
New capital	1,260		–1,260	0	**	2,521		–2,521	0	**	3,781		–3,781	0
Total liab. & equity	1,000	4,152	–2,260	2,892	**	1,000	6,339	–3,521	3,819	**	1,000	8,564	–4,781	4,783

Interest 5.00% Minimum capital requirement by Italian Law: 1 million

291-022
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Exhibit 2

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 30 days

Transfer price	Ret. Earnings	Nopat			Nopat reported		
	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
30	1,914	511	490	469	511	490	469
60	2,159	583	564	528	595	576	557
100	2,377	648	629	610	661	645	629
300	3,464	971	956	940	994	991	988
322	3,583	1,007	992	977	1,031	1,029	1,027
332	3,638	1,023	1,008	993	1,047	1,046	1,045
348	3,724	1,049	1,034	1,019	1,074	1,074	1,074
400	3,530	989	976	962	1,014	1,014	1,014
500	3,156	876	864	851	899	899	899
600	2,783	762	752	740	784	784	784
600	2,783	762	752	740	784	784	784

Nopat report = Nopat P-C Italy + Nopbt Ireland x (1 – %TAX in Ireland)

Exhibit 3

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 180 days (000's $)

Price to bottler	735	$/Unit	Taxes:		
Transfer price	**600**	$/Unit	Italy	55.00%	
Cos + F&I	60	$/Unit	Ireland	23.00%	

	Year end 1					Year end 2					Year end 3				
	Italy	Ireland	Adjust	Italy Total	**	Italy	Ireland	Adjust	Italy Total	**	Italy	Ireland	Adjust	Italy Total	
Units	5,000			5,000	**	5,000			5,000	**	5,000			5,000	
Sales	3,675	3,000	–3,000	3,675	**	3,675	3,000	–3,000	3,675	**	3,675	3,000	–3,000	3,675	
Cos	3,000	300	–3,000	300	**	3,000	300	–3,000	300	**	3,000	300	–3,000	300	
Marketing	1,470			1,470	**	1,470			1,470	**	1,470			1,470	
Contribution	–795	2,700	0	1,905	**	–795	2,700	0	1,905	**	–795	2,700	0	1,905	
G&A	500			500	**	500			500	**	500			500	
					**					**					
Nopbt	–1,295	2,700	0	1,405	**	–1,295	2,700	0	1,405	**	–1,295	2,700	0	1,405	
Tax	0	641	0	641	**	0	650	0	650	**	0	660	0	660	
Nopat	–1,295	2,059	0	**764**	**	–1,295	2,050	0	**755**	**	–1,295	2,040	0	**745**	
					**					**					
Interest E/(I)	94	–88		6	**	94	–127		–134	**	94	–168		–75	
Net income	–1,389	2,147	0	758	**	–1,389	2,177	0	788	**	–1,389	2,209	0	820	
					**					**					
Cash	200	1,759		1,958	**	201	2,546		2,747	**	201	3,366		3,566	
Receivables	1,838			1,838	**	1,838			1,838	**	1,838			1,838	
Affiliates		2,388	–2,388	0	**		3,778	–3,778	0	**		5,166	–5,166	0	
Total assets	2,037	4,147	–2,388	2,758	**	2,038	6,324	–3,778	3,546	**	2,038	8,532	–5,166	4,366	
					**					**					
Debt	1,038				**	1,038				**	1,038				
Capital	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000	
Ret. earnings	–1,389	2,147		758	**	–2,778	4,324		1,546	**	–4,166	6,532		**2,366**	
New capital	1,388		–1,388	0	**	2,778		–2,778	0	**	4,166		–4,166	0	
Total liab. & equity	2,037	4,147	–2,388	2,758	**	2,038	6,324	–3,778	3,546	**	2,038	8,532	–5,166	4,366	

Interest on cash 5.00%
Interest on debt 10.00%

Minimum capital requirement by Italian Law: 1 million

291-022
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Exhibit 4

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 180 days

Transfer price	Ret. Earnings	Nopat			Nopat reported		
	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
30	1,732	583	564	545	583	564	545
60	1,978	655	638	620	667	650	633
100	2,195	720	703	686	734	719	705
300	3,282	1,043	1,030	1,016	1,066	1,065	1,063
322	3,402	1,079	1,066	1,052	1,103	1,103	1,103
332	3,367	1,068	1,055	1,042	1,092	1,092	1,092
348	3,307	1,050	1,037	1,024	1,074	1,074	1,074
400	3,113	991	979	967	1,014	1,014	1,014
500	2,739	877	867	856	899	899	899
600	2,366	764	755	745	784	784	784
600	2,366	764	755	745	784	784	784

Nopat reported = Nopat P-C Italy + Nopbt Ireland x (1 – %TAX in Ireland)

Exhibit 5

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 180 days

Starting capital $2 million (000's $)

Price to bottler	735	$/Unit	Taxes:		
Transfer price	**600**	$/Unit	Italy	55.00%	
Cos + F&I	60	$/Unit	Ireland	23.00%	

	Year end 1			Italy	**	Year end 2			Italy	**	Year end 3			Italy
	Italy	**Ireland**	**Adjust**	**Total**	**	**Italy**	**Ireland**	**Adjust**	**Total**	**	**Italy**	**Ireland**	**Adjust**	**Total**
Units	5,000			5,000	**	5,000			5,000	**	5,000			5,000
Sales	3,675	3,000	–3,000	3,675	**	3,675	3,000	–3,000	3,675	**	3,675	3,000	–3,000	3,675
Cos	3,000	300	–3,000	300	**	3,000	300	–3,000	300	**	3,000	300	–3,000	300
Marketing	1,470			1,470	**	1,470			1,470	**	1,470			1,470
Contribution	–795	2,700	0	1,905	**	–795	2,700	0	1,905	**	–795	2,700	0	1,905
G&A	500			500	**	500			500	**	500			500
					**					**				
Nopbt	–1,295	2,700	0	1,405	**	–1,295	2,700	0	1,405	**	–1,295	2,700	0	1,405
Tax	0	641	0	641	**	0	650	0	650	**	0	660	0	660
Nopat	–1,295	2,059	0	**764**	**	–1,295	2,050	0	**755**	**	–1,295	2,040	0	**745**
					**					**				
Interest E/(I)	94	–88		6	**	94	–127		–34	**	94	–168		–75
Net income	–1,389	2,147	0	758	**	–1,389	2,177	0	788	**	–1,389	2,209	0	820
					**					**				
Cash	201	1,758		1,958	**	201	2,546		2,747	**	201	3,366		3,566
Receivables	1,838			1,838	**	1,838			1,838	**	1,838			1,838
Affiliates		2,389	–2,389	0	**		3,778	–3,778	0	**		5,166	–5,166	0
Total assets	2,038	4,147	–2,389	2,758	**	2,038	6,324	–3,778	3,546	**	2,038	8,532	–5,166	4,366
					**					**				
Debt	1,038				**	1,038				**	1,038			
Capital	2,000	2,000	–2,000	2,000	**	2,000	2,000	–2,000	2,000	**	2,000	2,000	–2,000	2,000
Ret. earnings	–1,389	2,147		758	**	–2,778	4,324		1,546	**	–4,166	6,532		**2,366**
New capital	389		–1,389	0	**	1,778		–1,778	0	**	4,166		–3,166	0
Total liab. & equity	2,038	4,147	–2,389	2,758	**	2,038	6,324	–3,778	3,546	**	2,038	8,532	–5,166	4,366

Interest on cash	5.00%	Minimum capital requirement by Italian Law: 1 million
Interest on debt	10.00%	

291-022
FN-261-E

Exhibit 6

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 180 days
Starting capital 2 million

Transfer price	Ret. Earnings	Nopat			Nopat reported		
	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
30	1,630	555	535	515	555	535	515
60	1,924	639	621	603	639	621	603
100	2,124	704	687	669	706	691	675
300	3,228	1,027	1,014	1,000	1,038	1,036	1,034
322	3,338	1,061	1,047	1,032	1,074	1,074	1,074
332	3,402	1,079	1,066	1,052	1,091	1,091	1,091
348	3,338	1,061	1,047	1,032	1,074	1,074	1,074
400	3,124	998	982	967	1,014	1,014	1,014
500	2,741	879	867	856	899	899	899
600	2,366	764	755	745	784	784	784
600	2,366	764	755	745	784	784	784

Nopat reported = Nopat P-C Italy + Nopbt Ireland x (1 – %TAX in Ireland)

Exhibit 7

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

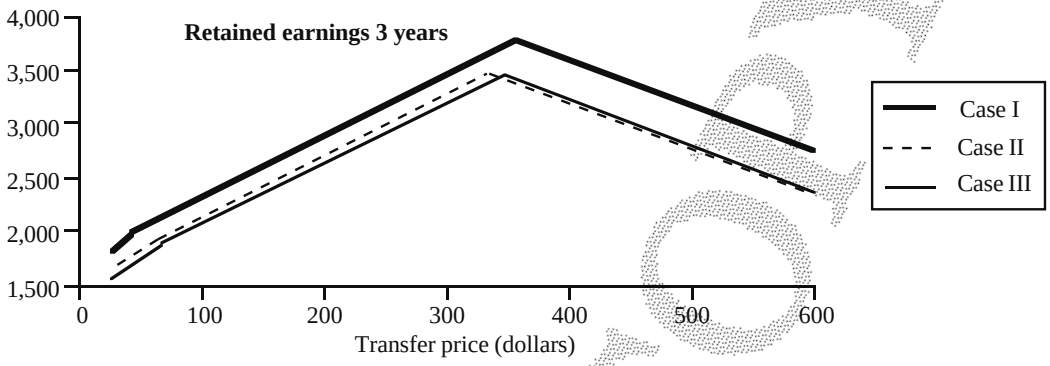
Impact of transfer price on total earnings. Comparison

	Ret. Earnings 3 Years			Nopat Year 1			Nopat Year 1 reported		
ransfer price	Case I	Case II	Case III	Case I	Case II	Case III	Case I	Case II	Case III
30	1,914	1,732	1,630	511	583	555	511	583	555
60	2,159	1,978	1,924	583	655	639	595	667	639
100	2,377	2,195	2,124	648	720	704	661	734	706
300	3,464	3,282	3,228	971	1,043	1,027	994	1,066	1,038
322	3,583	3,402	3,338	1,007	1,079	1,061	1,031	1,103	1,074
332	3,638	3,367	3,402	1,023	1,068	1,079	1,047	1,092	1,091
348	3,724	3,307	3,338	1,049	1,050	1,061	1,074	1,074	1,074
400	3,530	3,113	3,124	989	991	998	1,014	1,014	1,014
500	3,156	2,739	2,741	876	877	879	899	899	899
600	2,783	2,366	2,366	762	764	764	784	784	784

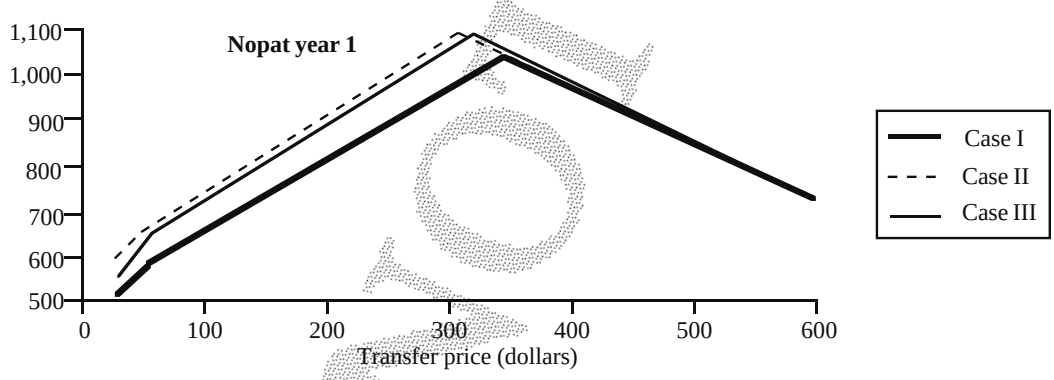
Case I Receivables 30 days
Case II Receivables 180 days
Case III Receivables 180 days, starting capital 2 million

Exhibit 7 (continued)

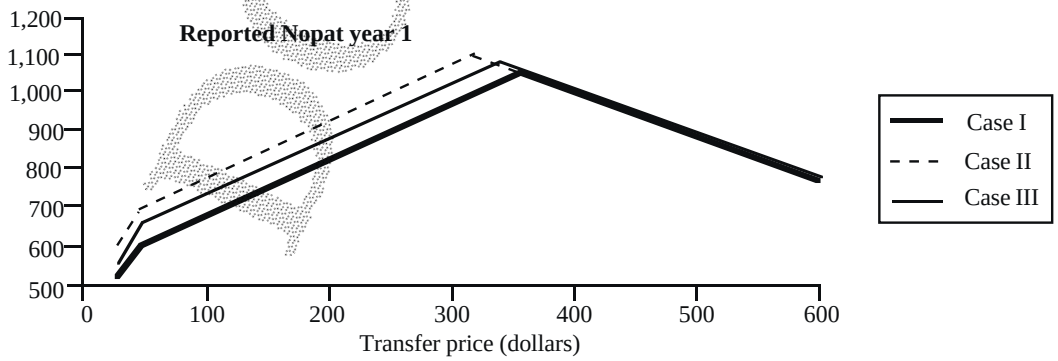
Graph 1



Graph 2



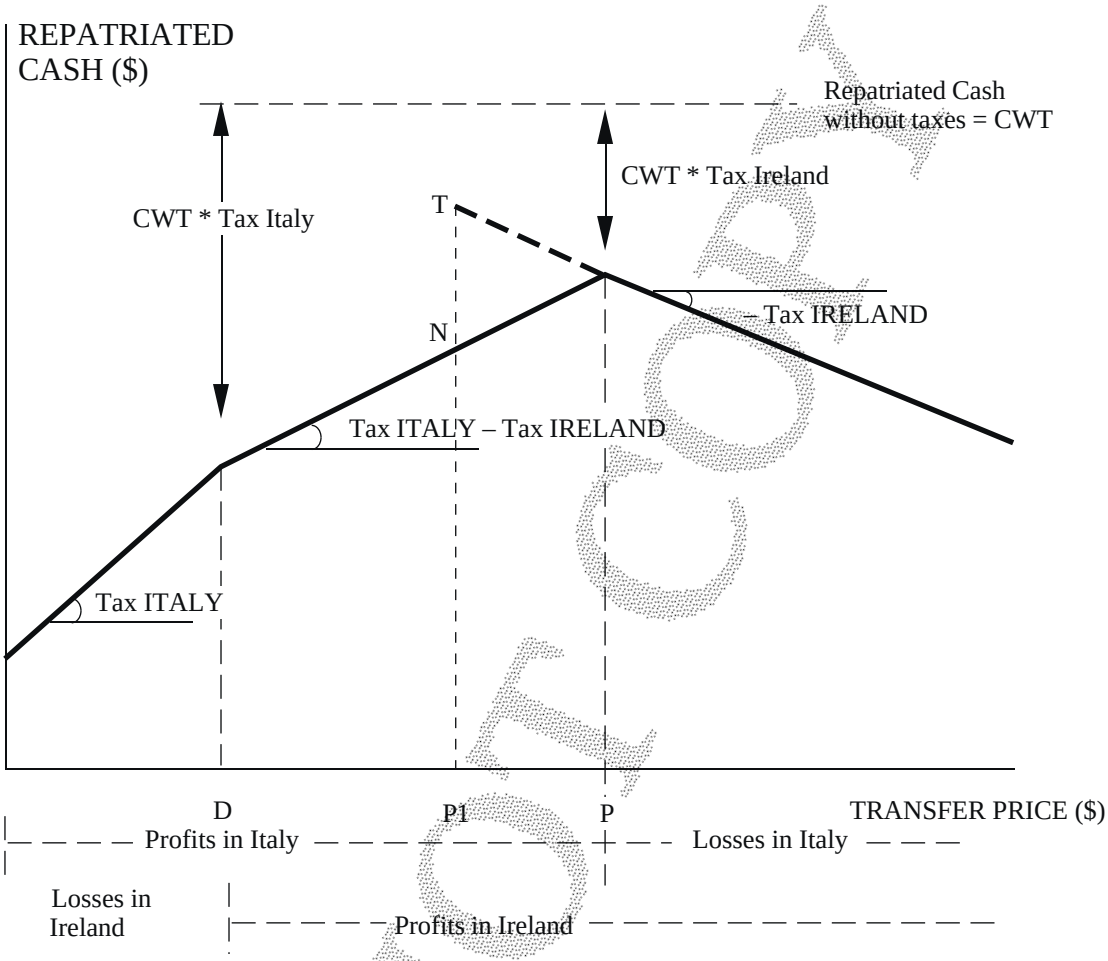
Graph 3



Appendix 2

Effects of differing tax regimes, including a US tax limitation on income

Figure 3a. Effect of a carry loss forward already in P-C Italy's books



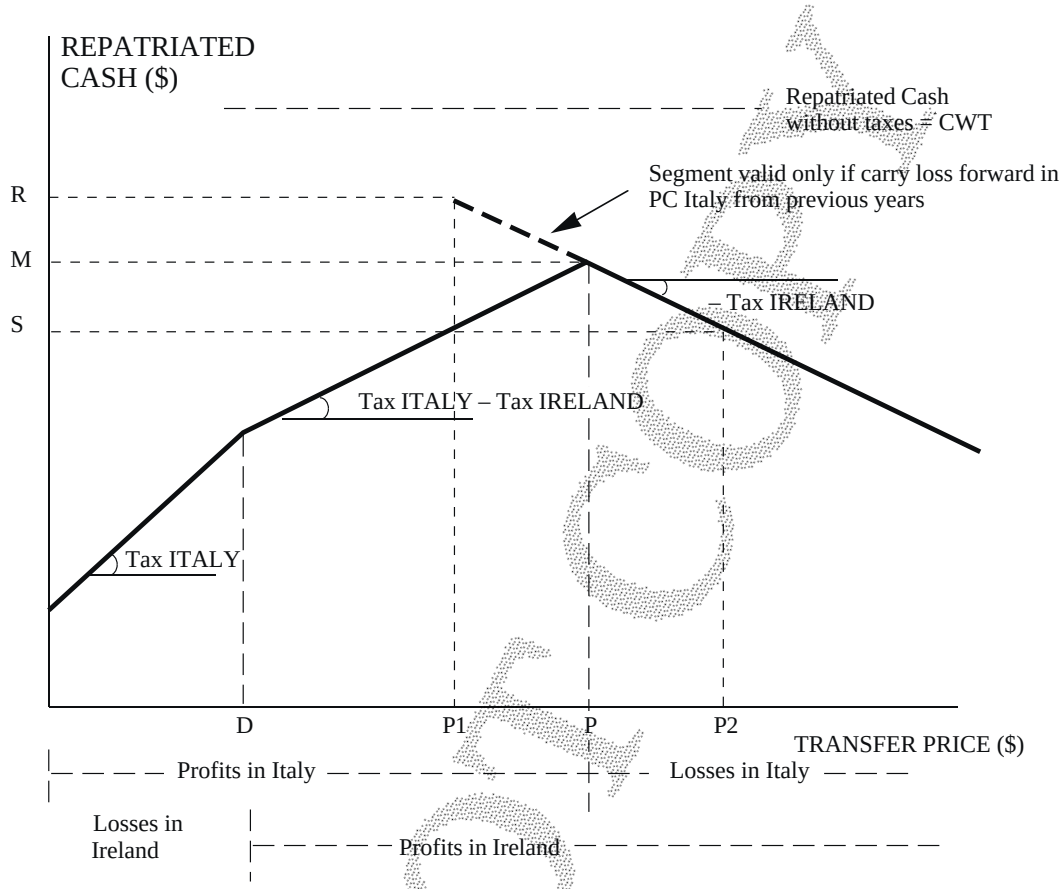
D = Zero profit in Ireland **P = Zero profit in Italy**

Optimal Strategy: Set transfer price = P1 for year 1 (Use all Tax Credits in Italy this year)
Set transfer price = P from year 2 on

NT = Tax Credit in Italy, due to previous losses

Assumptions: Tax ITALY > Tax USA > Tax IRELAND
FOREIGN TAX REGIME APPLIES

Figure 3b. Effect of moving around the maximum



D = Zero profit in Ireland **P = Zero profit in Italy**

	Year 1	**Year 2**	**Sum**
Strategy 1			
Tranfer price	P2	P1	
Cash Flow	S	R	2M
Strategy 2			
Transfer price	P	P	
Cash Flow	M	M	2M

But, using NPV criteria, strategy 2 dominates strategy 1.

Exhibit 8

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

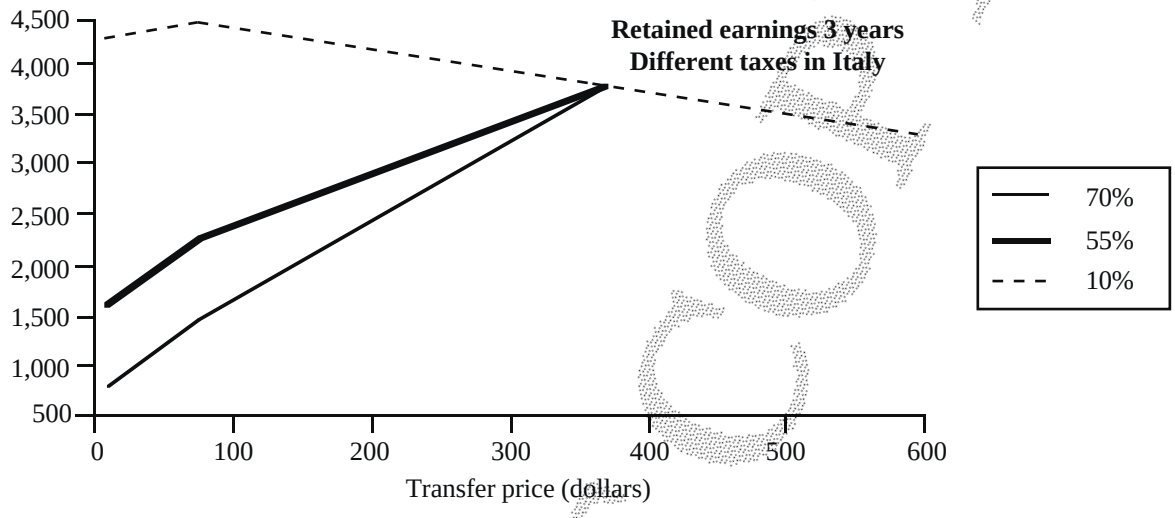
Impact of transfer price on total earnings. Case 1. Receivables: 30 days.
Different tax in Italy
(In percentage)

	Ret. Earnings 3 years			Nopat year 1			Nopat year 1 reported		
Transfer price	**70**	**55**	**10**	**70**	**55**	**10**	**70**	**55**	**10**
5	842	1,674	4,331	186	440	1,225	250	503	1,289
60	1,461	2,159	4,390	370	583	1,242	382	595	1,254
100	1,775	2,377	4,298	464	648	1,215	478	661	1,229
300	3,347	3,464	3,835	971	971	1,081	959	994	1,104
348	3,724	3,724	3,724	1,049	1,049	1,049	1,074	1,074	1,074
400	3,530	3,530	3,530	989	989	989	1,014	1,014	1,014
500	3,156	3,156	3,156	876	876	876	899	899	899
600	2,783	2,783	2,783	762	762	762	784	784	784

Taxes in Ireland: 23%
Taxes in Italy: 10, 55 and 70%

Exhibit 8 (continued)

Graph 4



Graph 5

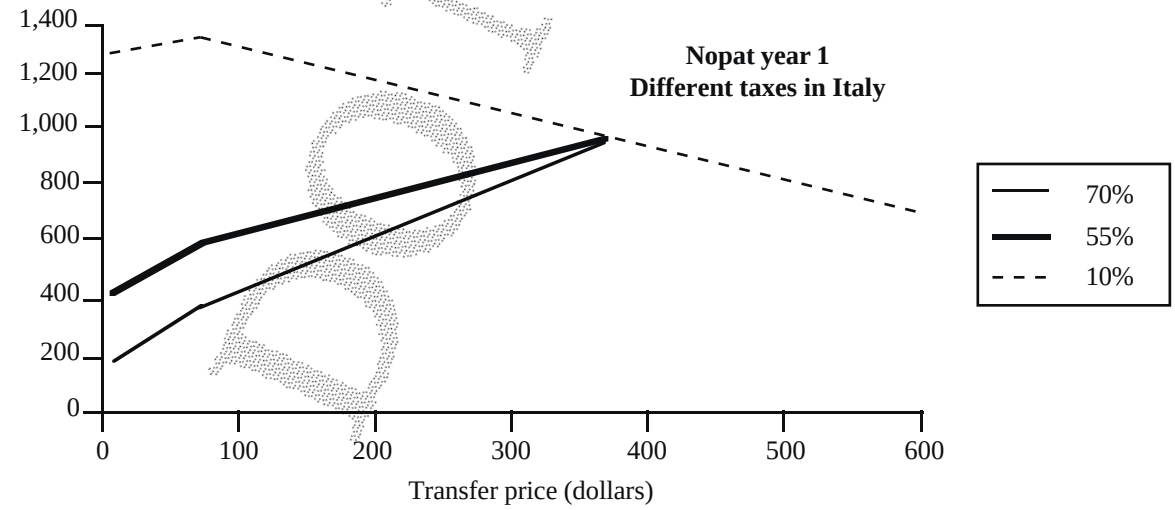
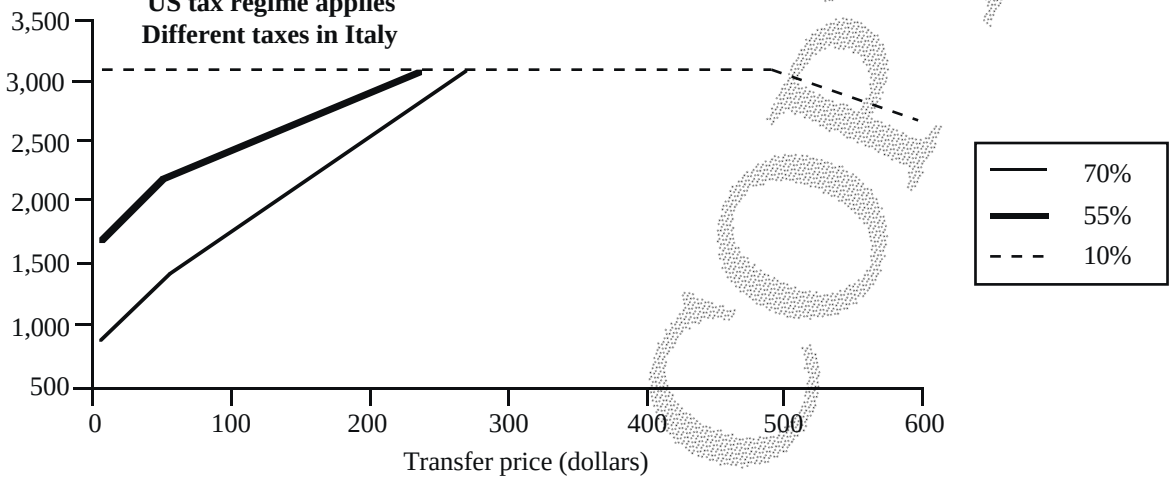


Exhibit 8 (continued)

Graph 6



Graph 7

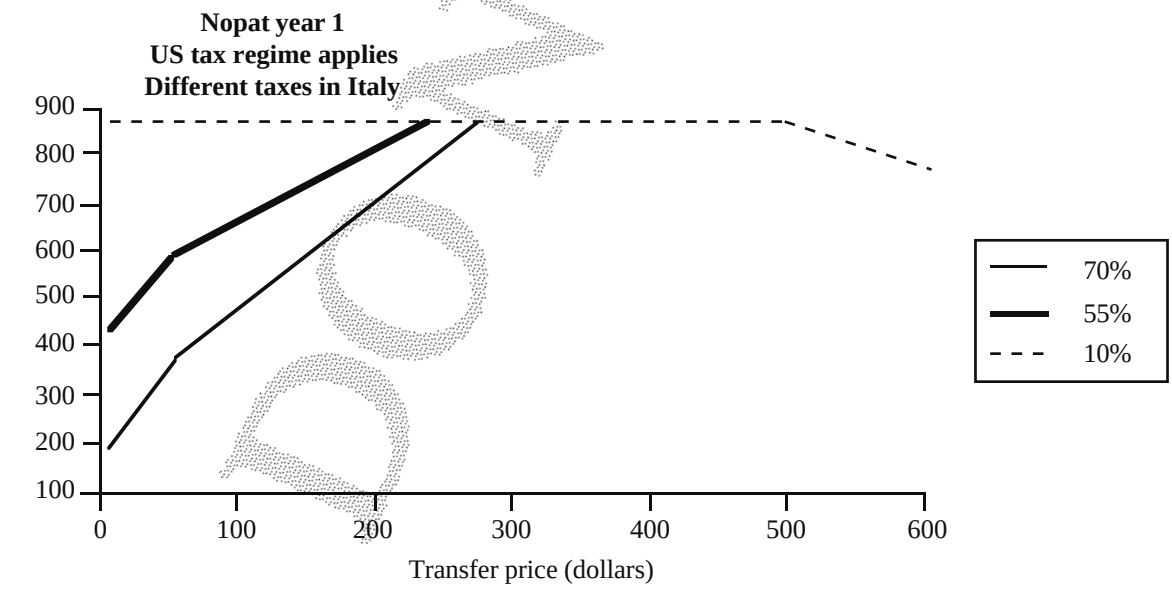


Exhibit 9

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 30 days (000's $)

Price to bottler	735	$/Unit	Taxes:		
Transfer price	**300**	$/Unit	Italy	55.00%	
Cos + F&I	60	$/Unit	Ireland	23.00%	
			U.S.	**34.00%**	

	Year end 1			**Italy**	**	**Year end 2**			**Italy**	**	**Year end 3**			**Italy**
	Italy	**Ireland**	**Adjust**	**Total**	**	**Italy**	**Ireland**	**Adjust**	**Total**	**	**Italy**	**Ireland**	**Adjust**	**Total**
Units	5,000			5,000	**	5,000			5,000	**	5,000			5,000
Sales	3,675	1,500	–1,500	3,675	**	3,675	1,500	–1,500	3,675	**	3,675	1,500	–1,500	3,675
Cos	1,500	300	–1,500	300	**	1,500	300	–1,500	300	**	1,500	300	–1,500	300
Marketing	1,470			1,470	**	1,470			1,470	**	1,470			1,470
Contribution	705	1,200	0	1,905	**	705	1,200	0	1,905	**	705	1,200	0	1,905
G&A	500			500	**	500			500	**	500			500
					**					**				
Nopbt	205	1,200	0	1,405	**	205	1,200	0	1,405	**	205	1,200	0	1,405
Tax	135	298	0	433	**	138	309	0	447	**	141	320	0	461
Tax U.S.		**91**		91	**		**95**		95	**		99		99
Nopat	70	811	0	**881**	**	67	796	0	**863**	**	64	781	0	**845**
					**					**				
Interest E/(I)	–40	–95		–136	**	–46	–142		–188	**	–52	–191		–242
Net income	110	906	0	1,017	**	113	939	0	1,051	**	115	972	0	1,087
					**					**				
Cash	804	1,906		2,710	**	917	2,845		3,762	**	1,032	3,817		4,849
Receivables	306			306	**	306			306	**	306			306
Affiliates		1,000	–1,000	0	**		1,000	–1,000	0	**		1,000	–1,000	0
Total assets	1,110	2,906	–1,000	3,017	**	1,223	3,845	–1,000	4,068	**	1,339	4,817	–1,000	5,156
					**					**				
Debt					**					**				
Capital	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000
Ret. earnings	110	906		1,017	**	223	1,845		2,068	**	339	2,817		**3,156**
New capital	0		0	0	**	0		0	0	**	0		0	0
Total liab. & equity	1,110	2,906	–1,000	3,017	**	1,223	3,845	–1,000	4,068	**	1,339	4,817	–1,000	5,156

Interest on cash	5.00%	Minimum capital requirement by Italian Law: 1 million
Interest on debt	10.00%	

291-022
FN-261-E

Exhibit 10

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. US tax regime applies. Receivables: 30 days.
Different tax in Italy
(In percentage)

	Ret. Earnings 3 years			Nopat year 1			Nopat reported year 1		
Transfer price	**70**	**55**	**10**	**70**	**55**	**10**	**70**	**55**	**10**
5	842	1,674	3,156	186	440	881	250	503	944
60	1,461	2,159	3,156	370	583	881	382	595	889
100	1,775	2,377	3,156	464	648	881	478	661	891
244	2,907	3,155	3,156	804	881	881	824	901	899
278	3,156	3,156	3,156	881	881	881	903	903	901
300	3,155	3,156	3,156	881	881	881	904	904	903
348	3,156	3,156	3,156	881	881	881	904	904	904
400	3,155	3,156	3,156	881	881	881	904	904	904
495	3,156	3,156	3,156	881	881	881	904	904	904
500	3,149	3,150	3,150	876	876	876	899	899	899
600	2,783	2,783	2,783	762	762	762	784	784	784

Nopat reported = Nopat PC Italy + Nopbt Ireland x (1 – % TAX in Ireland) – Tax US

Taxes:	Italy	70, 55 and 10%
	Ireland	23.00%
	U.S.	**34.00%**

Exhibit 11

TRANSFER PRICING FOR MULTINATIONALS: IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Impact of transfer price on total earnings. Receivables: 30 days (000's $)

Price to bottler	735	$/Unit	Taxes:		
Transfer price	**300**	$/Unit	Italy	0.00%	
Cos + F&I	60	$/Unit	Ireland	0.00%	
			U.S.	**0.00%**	

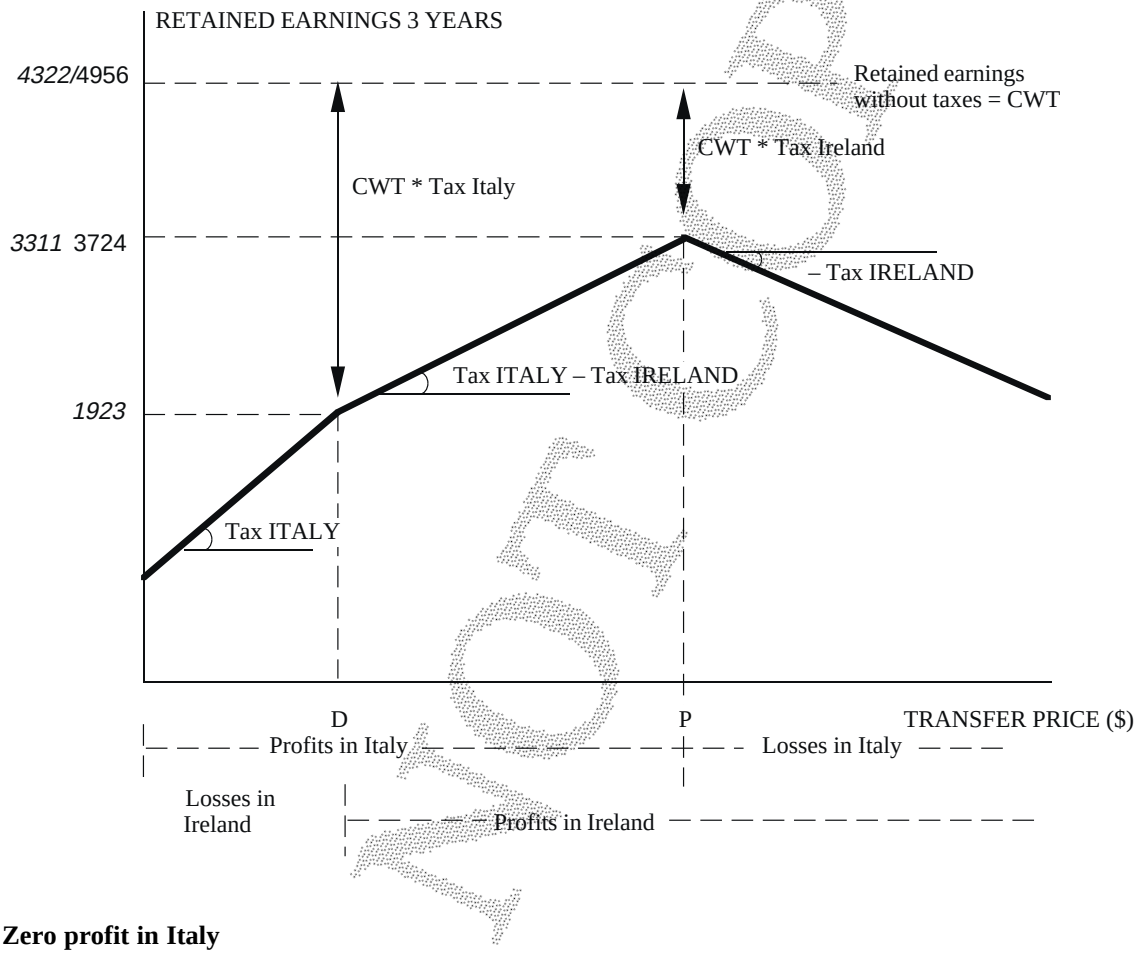
	Year end 1			**Italy**	**	**Year end 2**			**Italy**	**	**Year end 3**			**Italy**
	Italy	**Ireland**	**Adjust**	**Total**	**	**Italy**	**Ireland**	**Adjust**	**Total**	**	**Italy**	**Ireland**	**Adjust**	**Total**
Units	5,000			5,000	**	5,000			5,000	**	5,000			5,000
Sales	3,675	1,500	–1,500	3,675	**	3,675	1,500	–1,500	3,675	**	3,675	1,500	–1,500	3,675
Cos	1,500	300	–1,500	300	**	1,500	300	–1,500	300	**	1,500	300	–1,500	300
Marketing	1,470			1,470	**	1,470			1,470	**	1,470			1,470
Contribution	705	1,200	0	1,905	**	705	1,200	0	1,905	**	705	1,200	0	1,905
G&A	500			500	**	500			500	**	500			500
					**					**				
Nopbt	205	1,200	0	1,405	**	205	1,200	0	1,405	**	205	1,200	0	1,405
Tax	0	0	0	0	**	0	0	0	0	**	0	0	0	0
Tax U.S.		**0**		0	**		**0**		0	**		0		0
Nopat	205	1,200	0	**1,405**	**	205	1,200	0	**1,405**	**	205	1,200	0	**1,405**
					**					**				
Interest E/(I)	–47	–116		–163	**	–61	–185		–246	**	–75	–258		–332
Net income	252	1,316	0	1,568	**	266	1,385	0	1,651	**	208	1,458	0	1,737
					**					**				
Cash	946	2,316		3,262	**	1,212	3,701		4,912	**	1,491	5,159		6,650
Receivables	306			306	**	306			306	**	306			306
Affiliates		1,000	–1,000	0	**		1,000	–1,000	0	**		1,000	–1,000	0
Total assets	1,252	3,316	–1,000	3,568	**	1,518	4,701	–1,000	5,219	**	1,797	6,159	–1,000	6,956
					**					**				
Debt					**					**				
Capital	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000	**	1,000	2,000	–1,000	2,000
Ret. earnings	252	1,316		1,568	**	518	2,701		3,219	**	797	4,159		**4,956**
New capital	0		0	0	**	0		0	0	**	0		0	0
Total liab. & equity	1,252	3,316	–1,000	3,568	**	1,518	4,701	–1,000	5,219	**	1,797	6,159	–1,000	6,956

Interest on cash	5.00%	Minimum capital requirement by Italian Law: 1 million
Interest on debt	10.00%	

Exhibit 12

TRANSFER PRICING FOR MULTINATIONALS:
IN LOCAL CURRENCY OR IN HEADQUARTERS CURRENCY?

Quick calculation. The more accurate the approximation, the less important the interest



P = Zero profit in Italy

Profit in Italy = Sales – Expenses + Interest = 0
Expenses = Mktg + G&A + Transfer Price = 1,470 + 500 P x 5,000 units
Interest = 5% (1,000 - 306) = r (Capital - Balance Sheet to support) = 34.7
Profit = 0 = 3,675 - 1,470 - 500 P x 5,000 + 34.7; **P = 348$/unit**, as we found in Exhibit 8 and Graphs 1 and 4

With 1% interest and 1,000 of total capital (instead of 2,000), the approximation is much more accurate

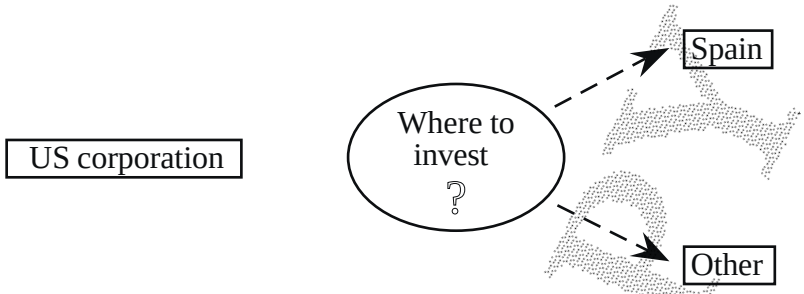
P = 342 D = 60

Note that 4,322 x (1 - 0.23) = 3,328; 0.5% error
4,332 x (1 - 0.55) = 1,945; 1.1% error

Appendix 3

Use of the model in presenting a tax policy argument for attracting investment: SPAIN as a European base for multinationals

Figure 5. Problem of selling in the European market...



Tax situation
(In percentage)

	Spain	Country A	Country B	USA
Tax rate	35	40	10	34
Withholding tax	20	10	10	
Tax treaty with Spain	no	yes	yes	
Effective tax rate on repatriated cash	**65.68**	**46**	**34**	

65.68% = 1 - (1 - 0.35) (1 - 0.2) (1 - 0.34)

46% = MAX [{1 - (1 - 0.40) (1 - 0.10) } , 34%]

34% = MAX [{ 1 - (1 - 0.10) (1 - 0.10) } , 34%]

Transfer price policy as a competitive weapon to attract American direct investment to Spain

How can the US corporation be compensated for the higher effective tax rate on repatriated cash that it has to pay in Spain?

1. By offering higher CWT (repatriated cash without taxes) than other European countries.

   – Lower labor costs (also includes subsidies on Social Security contributions).
   – Lower production costs (subsidies on energy consumption…).
   – Lower local and other taxes (other than income tax).

2. By offering lower initial investment disbursements than other European countries:

   – More free contribution to initial investment (free land, partially free machinery and equipment…).
   – Government contribution for each new job created.

3. By offering a tax-free status (also on withholding tax on repatriated dividends) to match Country B's tax situation.

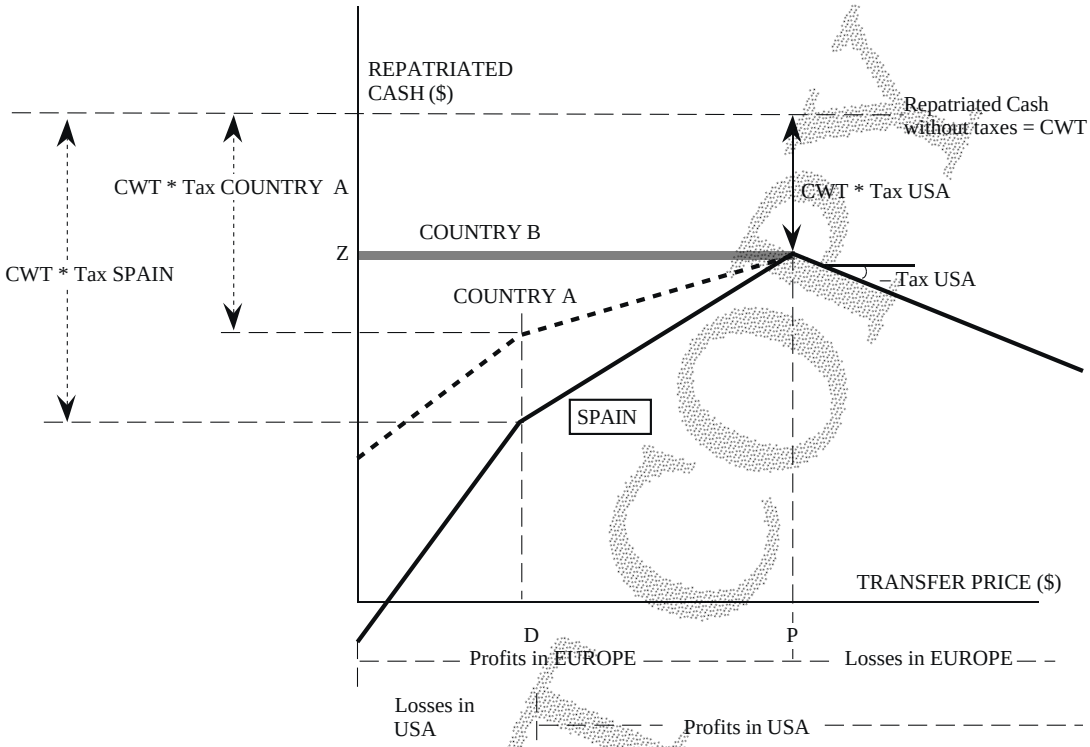
   Problems: 3 Comparative status of existing foreign companies.

   1&2 Other European countries are already offerin substantial contributions under these headings.
   To improve on their offerings would be very costly.

   Another possibility until a tax treaty with the US is agreed:

Give the American corporation the flexibility to freely change the transfer price until the agreement is signed. At the same time, Spain would have to match (but not improve on) the complementary incentives given by other European countries. This is, in effect, an option that allows the corporation to repatriate "z" (see Figure 6) under any circumstances.

Figure 6. Comparison of repatriated cash flows for the same investment in different countries



D = Zero profit in USA **P = Zero profit in Spain, country A, country B**

D = f (Variable and fixed costs in **the** USA, Interest rate in **the** USA,
Other **intercompany** charges)

P = f (Sales in Spain, Fixed and variable **costs** in Europe, Interest rate in Europe,
Other **intercompany** charges, Exchange **rate**)

Assumptions: Equal sales in all scenarios (European market)
Equal costs in different countries
Equal net initial investment in different countries