



Baarerstrasse 98, PO Box 7262, 6302 Zug, Switzerland
Tel: +41 (0)41 760 28 88; Fax: +41 (0)41 760 29 09; email: info@railworkinggroup.org

An initial review of the Economic Case for the Rail Protocol

prepared by

KfW Kreditanstalt für Wiederaufbau, HSH Nordbank and

Global Capital Finance GmbH & Co. Europe KG

The Rail Protocol may have a very significant impact on the development of the railway industry. It will encourage private sector investment in railway equipment by providing more security to financiers, in certain cases reducing the cost of financing rail assets or even facilitating the financing of rail assets where currently this is not possible due to local legal problems.

There are a variety of economic factors that may be positively influenced by the implementation of the Rail Protocol and thus lead to an extension of the financial frontier as indicated above. In the following analysis, however, we have focused primarily on savings a rail operator may attain as a consequence of a potential reduction of risk margins due to the introduction of an international rail-car-register.

In the following the margins for standard-type transactions in three geographic regions have been calculated: Western Europe, Eastern/Central Europe and Asia. The economic benefit attributed to the introduction of a register is calculated as the discounted difference in interest between a) transactions where no collateral is accounted for and b) identical transactions where the financed assets are accounted for as collateral. The basic assumption underlying these calculations is that the introduction of a register will convert assets, which may currently not be considered as security, into bankable collateral. It has to be noted though that a) there may be many countries where rolling stock already is considered bankable collateral by banks and the asset register may not render any additional benefit and b) there are other markets where there are such deficits in the local legal system, rule of law or factual ability to repossess assets that the potential of an asset register may not be fully realized.

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<i>General Assumptions</i>	Case Parameters	Accumulated Savings (EUR, range)	
	<i>Volume: EUR 15 Annuity Repayment</i>	<i>Freight-Wagons (250 units)</i>	<i>Locomotives (7 units)</i>
Western Europe	<i>Country Risk: AAA Counterparty: BBB Term: 10 years Balloon: 60%</i>	380.000 – 510.000	380.000 – 510.000
Eastern/Central Europe	<i>Country Risk: BBB Counterparty: BB Term: 8 years Balloon: 50%</i>	700.000 – 840.000	840.000 – 990.000
Asia	<i>Country Risk: BB Counterparty: BB Term: 5 years Balloon: 50%</i>	310.000 – 370.000	215.000 – 275.000

The following salient features emerge from the above calculations:

- The potential for cost savings is quite substantial, once an asset may be considered as bankable collateral.
- The potential for cost savings is positively correlated with counterparty and country risk.
- However, this effect may be offset/balanced by the marketability of an asset (e.g. in Asia, where markets tend to be dominated by monopolistic actors).
- N.B.: The calculation of the asset-value-curves underlying the above cost reductions (put differently: the values curves accepted as bankable collateral) may differ quite significantly among different financiers.

Appendix
Calculation Sheet



WESTERN EUROPE

Assumptions

Volume	-24'000'000
Country Risk	AAA
Counterparty Risk	BBB
Term (years)	10
Balloon	60%
Repayment Structure	Annuity

Base Case (uncollateralized)

Interest	6%
Balloon	14'400'000
PMT	2'168'332

Collateralized Case

	Freight Wagons		Locomotives	
	<u>Lower Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Upper Limit</u>
Units	250		7	
Cost per Unit	-96'000		-3'428'571	
Interest Savings	0.25%	0.35%	0.25%	0.35%
Legal Costs	60'000	60'000	60'000	60'000
Balloon	14'400'000	14'400'000	14'400'000	14'400'000
PMT	2'116'927	2'096'390	2'116'927	2'096'390
	51'405	71'942	51'405	71'942
Legal	6'000	6'000	6'000	6'000
Annual Savings	57'405	77'942	57'405	77'942
	2.65%	3.59%	2.65%	3.59%
Accumulated Savings	574'050	779'424	574'050	779'424
Acc. Saving per Unit	2'296	3'118	82'007	111'346
	2.39%	3.25%	2.39%	3.25%



EASTERN/CENTRAL EUROPE

Assumptions

Volume	-24'000'000
Country Risk	BBB
Counterparty Risk	BB
Term (years)	8
Balloon	50%
Repayment Structure	Annuity

Base Case (uncollateralized)

Interest	6%
Balloon	12'000'000
PMT	2'652'431

Collateralized Case

	Freight Wagons		Locomotives	
	<u>Lower Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Upper Limit</u>
Units	250		7	
Cost per Unit	-96'000		-3'428'571	
Interest Savings	0.65%	0.80%	0.80%	1.00%
Legal Costs	60'000	60'000	60'000	60'000
Balloon	12'000'000	12'000'000	12'000'000	12'000'000
PMT	2'525'019	2'495'701	2'495'701	2'456'662
	127'413	156'730	156'730	195'770
Legal	7'500	7'500	7'500	7'500
Annual Savings	134'913	164'230	164'230	203'270
	5.09%	6.19%	6.19%	7.66%
Accumulated Savings	1'079'302	1'313'840	1'313'840	1'626'156
Acc. Saving per Unit	4'317	5'255	187'691	232'308
	4.50%	5.47%	5.47%	6.78%



ASIA

Assumptions

Volume	-24'000'000
Country	
Risk	BB
Counterparty Risk	BB
Term	
(years)	5
Balloon	50%
Repayment Structure	Annuity

Base Case (uncollateralized)

Interest	6%
Balloon	12'000'000
PMT	3'568'757

Collateralized Case

	Freight Wagons		Locomotives	
	<u>Lower Limit</u>	<u>Upper Limit</u>	<u>Lower Limit</u>	<u>Upper Limit</u>
Units	250		7	
Cost per Unit	-96'000		-3'428'571	
Interest Savings	0.40%	0.50%	0.25%	0.35%
Legal				
Costs	60'000	60'000	60'000	60'000
Balloon	12'000'000	12'000'000	12'000'000	12'000'000
PMT	3'489'828	3'470'117	3'519'410	3'499'686
	78'929	98'640	49'347	69'071
Legal	12'000	12'000	12'000	12'000
Annual Savings	90'929	110'640	61'347	81'071
	2.55%	3.10%	1.72%	2.27%
Accumulated Savings	454'646	553'198	306'736	405'354
Acc. Saving per Unit	1'819	2'213	43'819	57'908
	1.89%	2.30%	1.28%	1.69%