

car sharing

Germany

1.1 Adoption over time

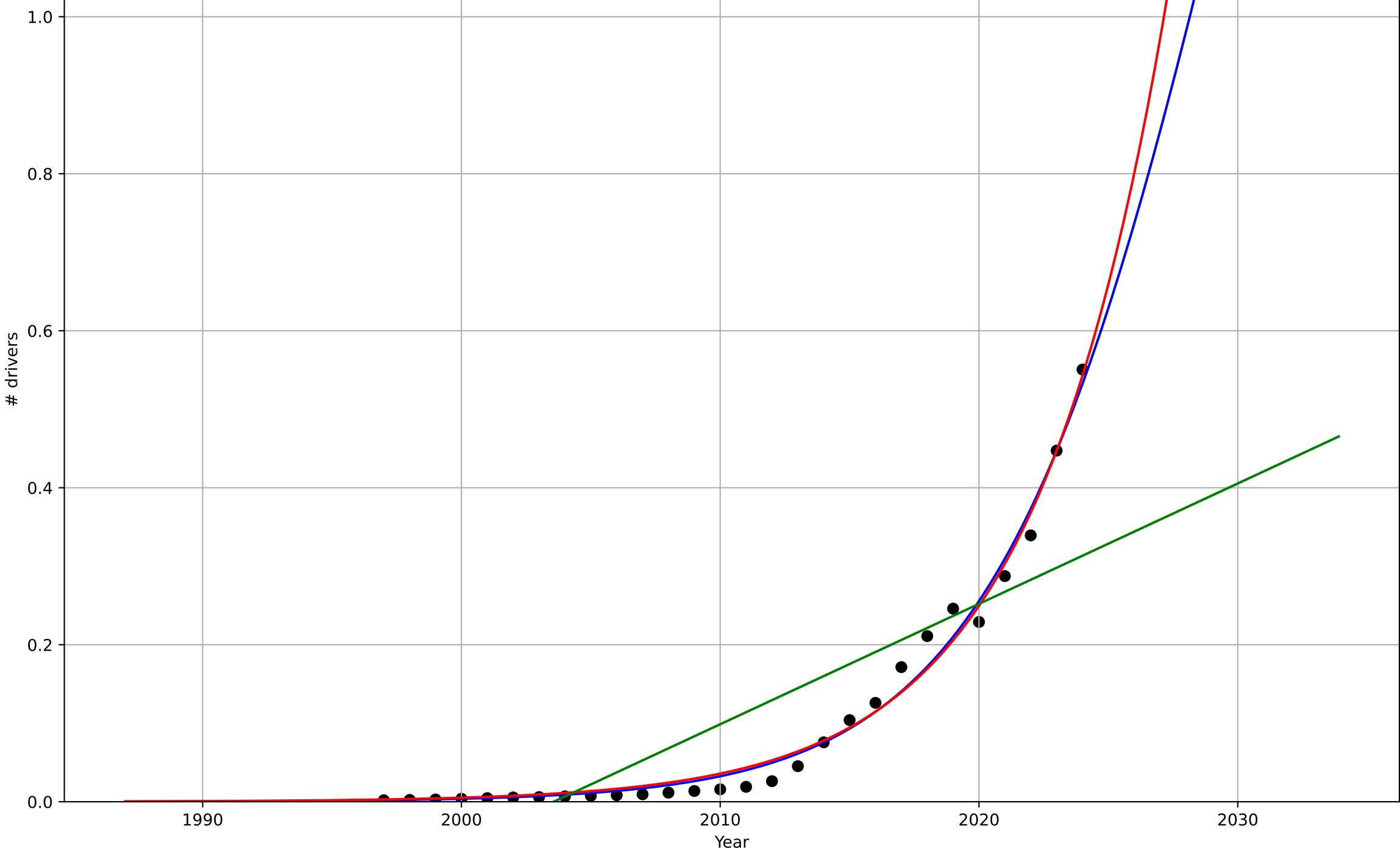
registered drivers

# drivers

1e7

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2030, D_t=20.4, K=2.55e+07$	0.216	0.986	0.984	1.75e+05	1.25e+05
Exponential	$8.87e-11 \cdot \exp(0.194 \cdot (x-1825))$	0.194	0.985	0.984	1.78e+05	1.32e+05
Linear	intercept=-3.07e+08, slope=1.53e+05	1.53e+05	0.707	0.684	7.97e+05	6.3e+05

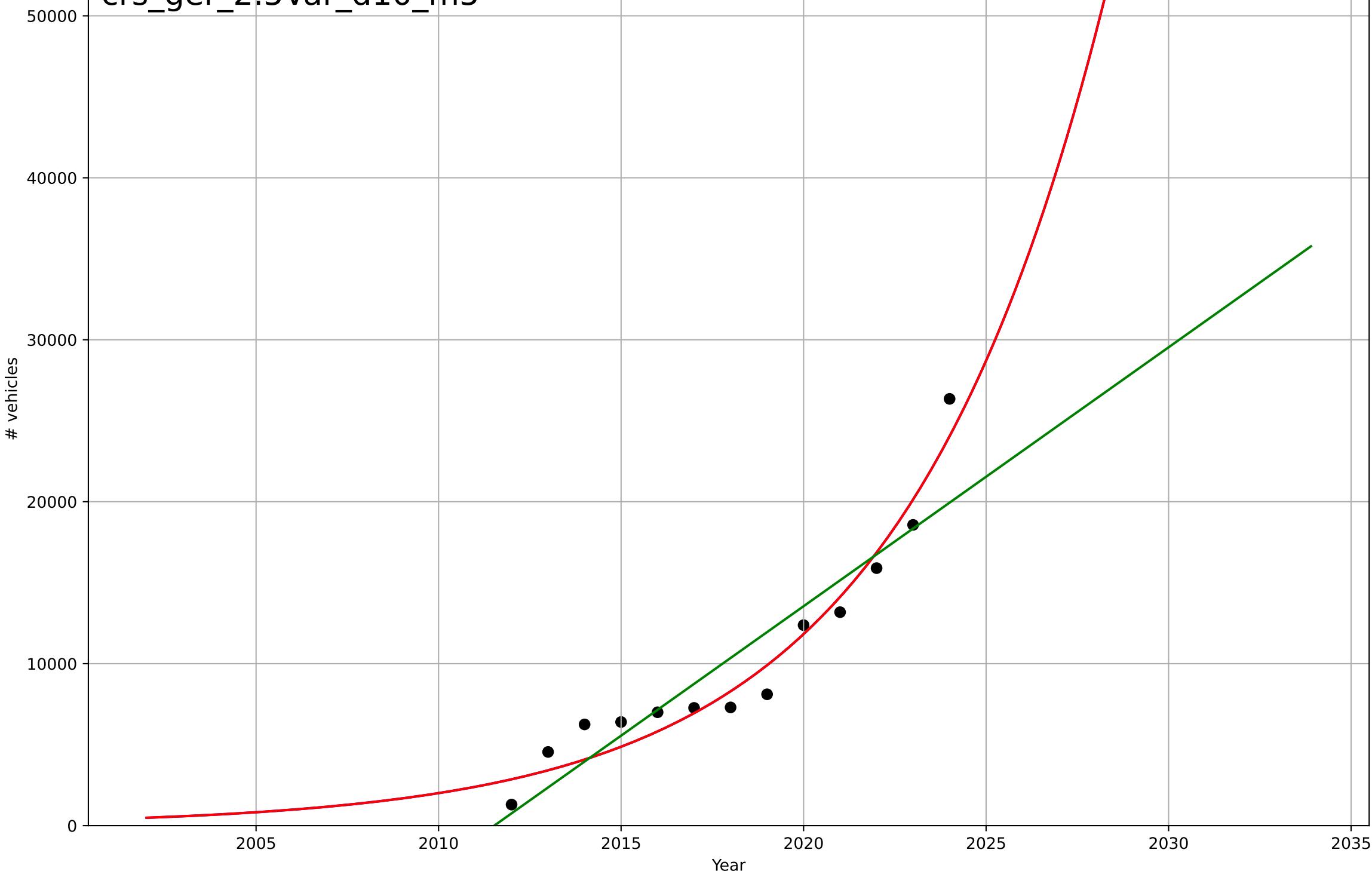
crs\_ger\_1.1Ado\_d12\_m3



car sharing  
 Germany  
 2.5 Choice availability  
 free-floating cars - registered vehicles  
 # vehicles

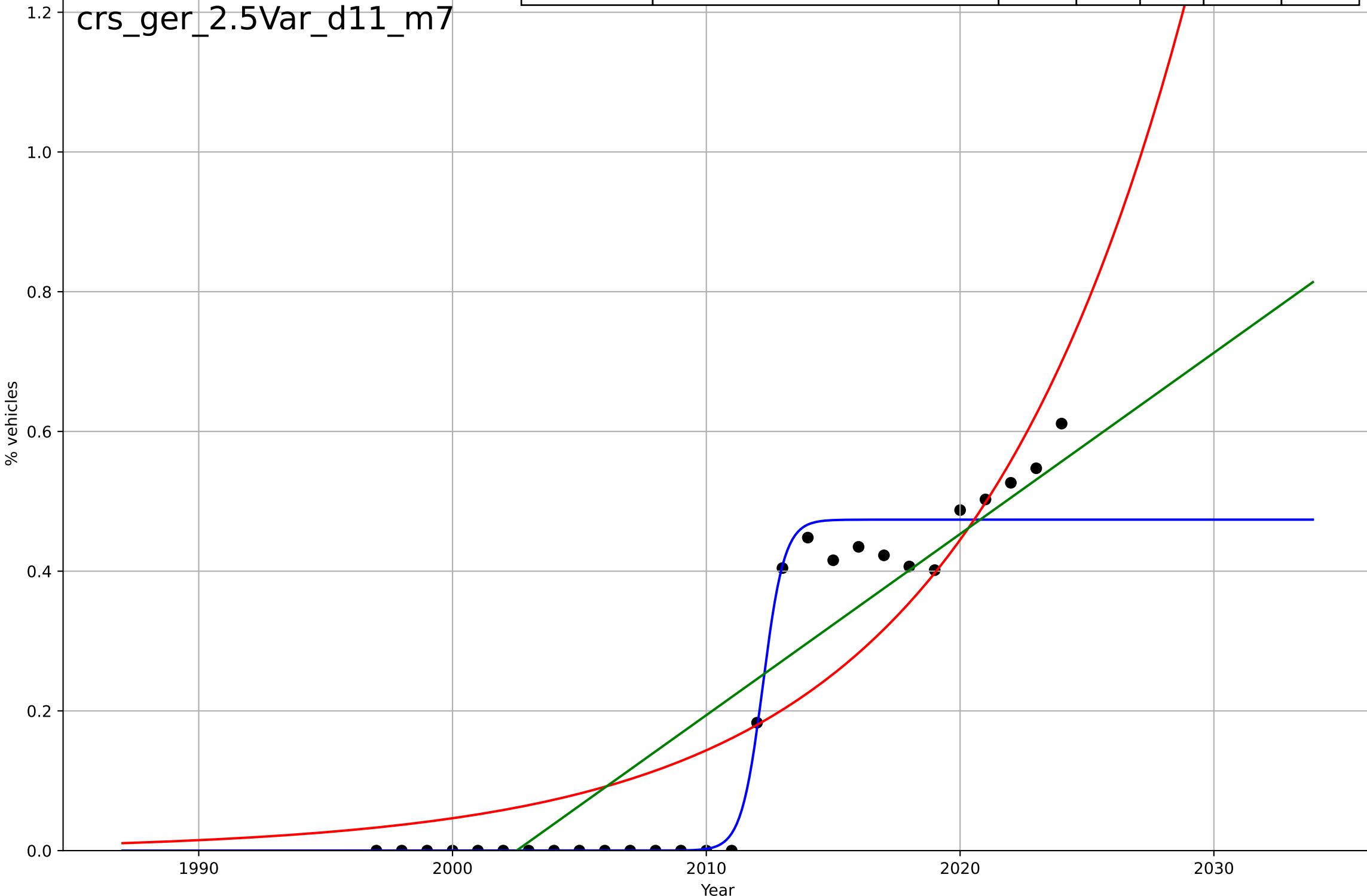
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2091, D_t=24.8, K=3.8e+09$	0.177	0.952	0.936	1.42e+03	1.31e+03
Exponential	$1.55e-07 \cdot \exp(0.177 \cdot (x-1879))$	0.177	0.952	0.942	1.42e+03	1.31e+03
Linear	intercept=-3.22e+06, slope=1.6e+03	1.6e+03	0.846	0.816	2.55e+03	1.92e+03

crs\_ger\_2.5Var\_d10\_m5



car sharing  
 Germany  
 2.5 Choice availability  
 free-floating cars as % of all shared cars  
 % vehicles

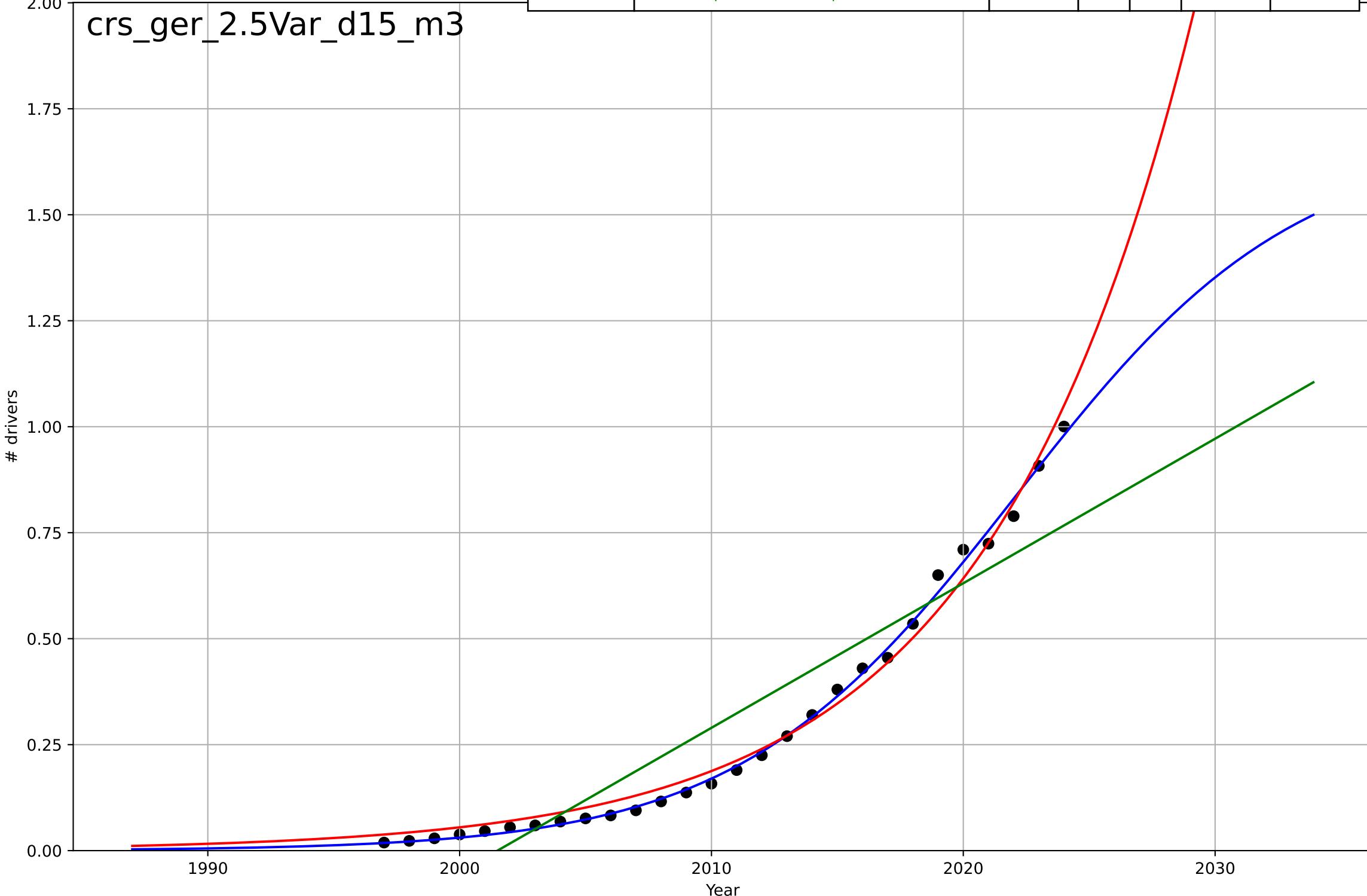
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2012, D_t=1.86, K=0.474$	2.36	0.969	0.965	0.0407	0.0233
Exponential	$2.37 \cdot \exp(0.113 \cdot (x-2035))$	0.113	0.805	0.789	0.102	0.0849
Linear	intercept=-51.9, slope=0.0259	0.0259	0.815	0.8	0.0997	0.0809



car sharing  
 Germany  
 2.5 Choice availability  
 station-based or combined - registered drivers  
 # drivers  
 $1e6$

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2022, D_t=24.4, K=1.68e+06$	0.18	0.997	0.997	$1.62e+04$	$1.19e+04$
Exponential	$1.27e-06 \cdot \exp(0.123 \cdot (x-1801))$	0.123	0.988	0.988	$3.17e+04$	$2.68e+04$
Linear	intercept= $-6.82e+07$ , slope= $3.41e+04$	$3.41e+04$	0.869	0.859	$1.07e+05$	$9.42e+04$

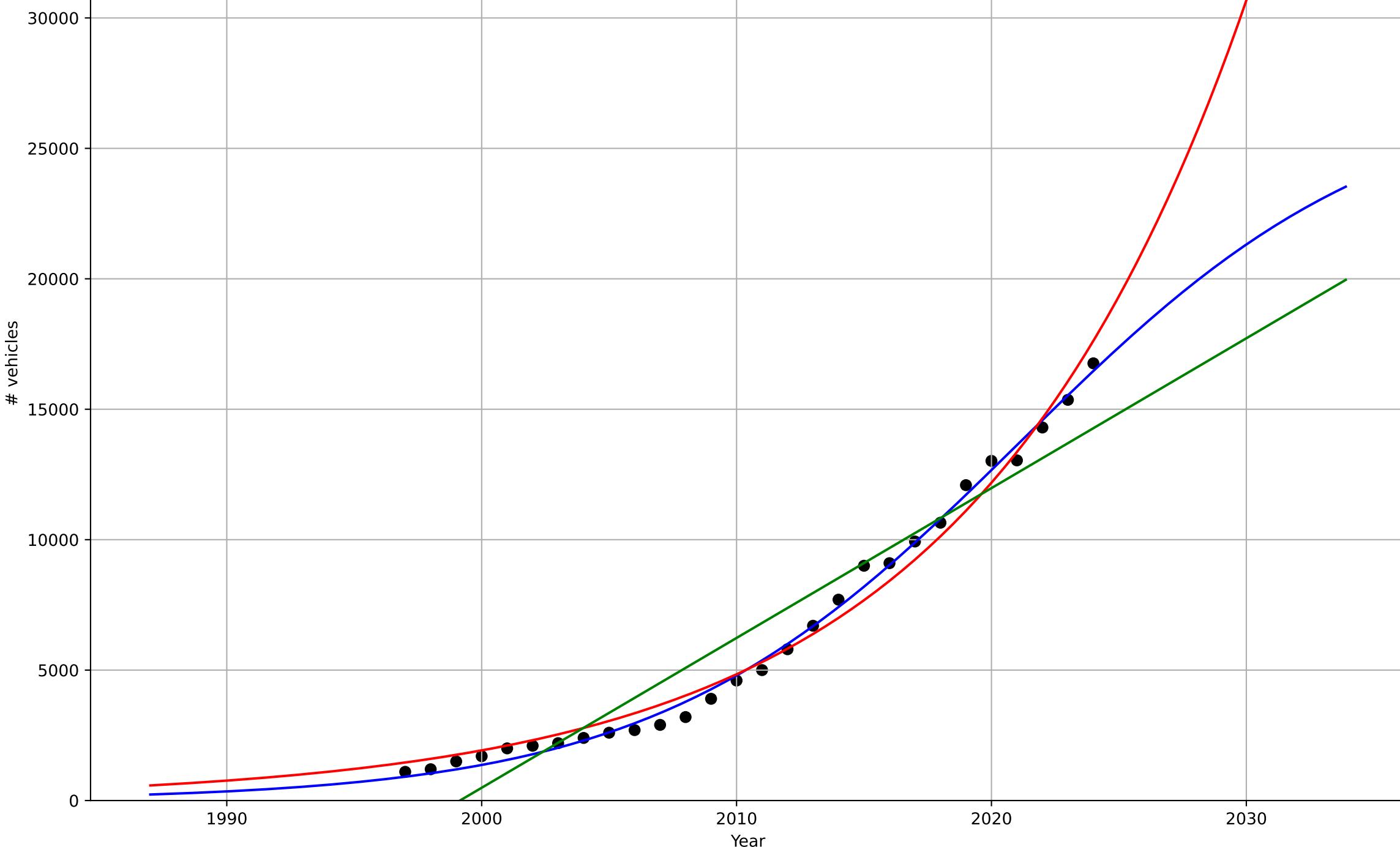
crs\_ger\_2.5Var\_d15\_m3



car sharing  
 Germany  
 2.5 Choice availability  
 station-based or combined - registered vehicle  
 # vehicles

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2021, Dt=31.4, K=2.75e+04	0.14	0.995	0.995	334	282
Exponential	0.000373*exp(0.0923*(x-1833))	0.0923	0.985	0.984	589	512
Linear	intercept=-1.15e+06, slope=574	574	0.925	0.919	1.32e+03	1.14e+03

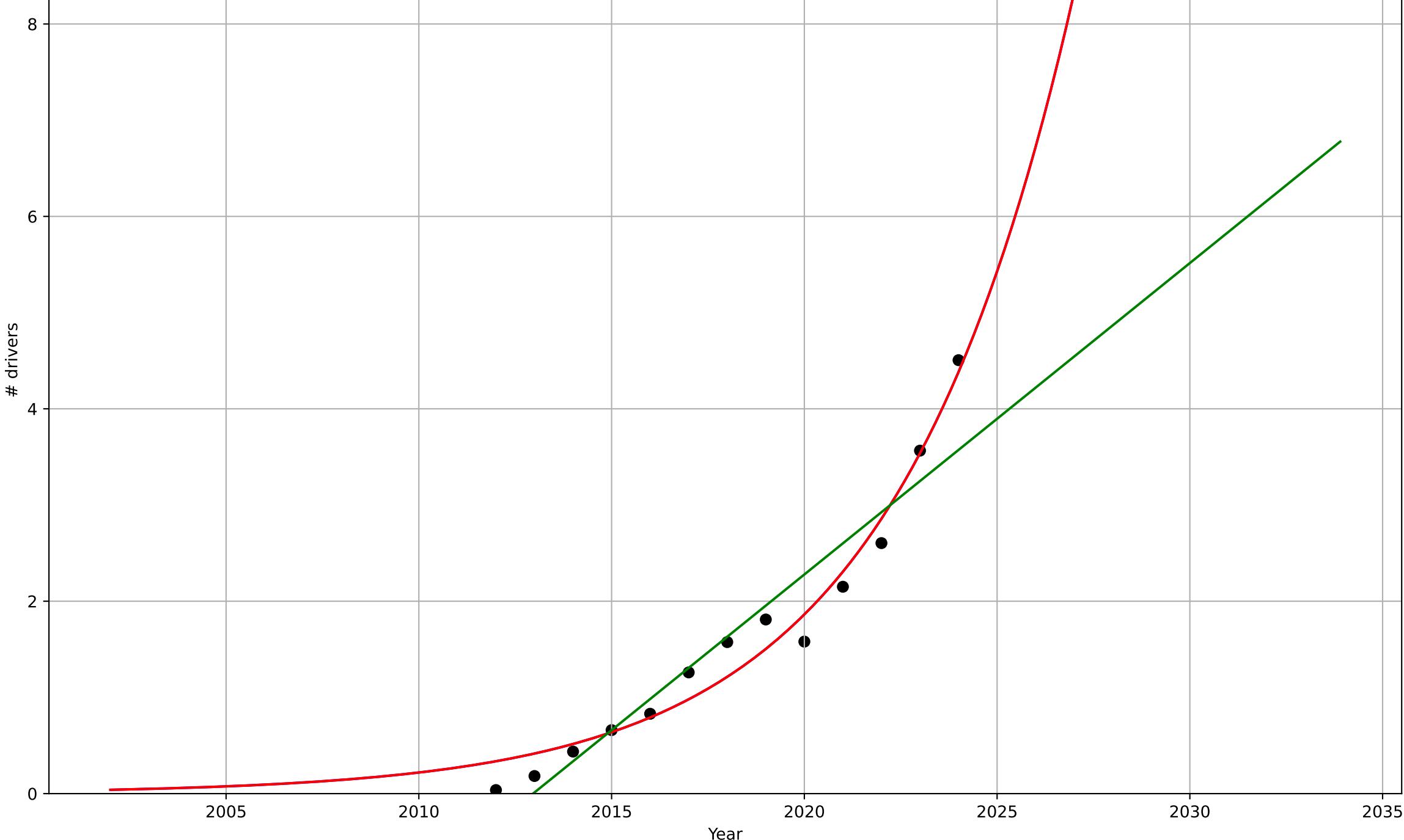
crs\_ger\_2.5Var\_d16\_m5



car sharing  
 Germany  
 2.5 Choice availability  
 free-floating cars - registered drivers  
 # drivers  
 $1e6$

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2073, D_t=20.5, K=1.72e+11$	0.214	0.97	0.96	2.22e+05	1.89e+05
Exponential	$5.68e-12 \cdot \exp(0.214 \cdot (x-1832))$	0.214	0.97	0.964	2.22e+05	1.89e+05
Linear	intercept=-6.52e+08, slope=3.24e+05	3.24e+05	0.906	0.887	3.9e+05	2.88e+05

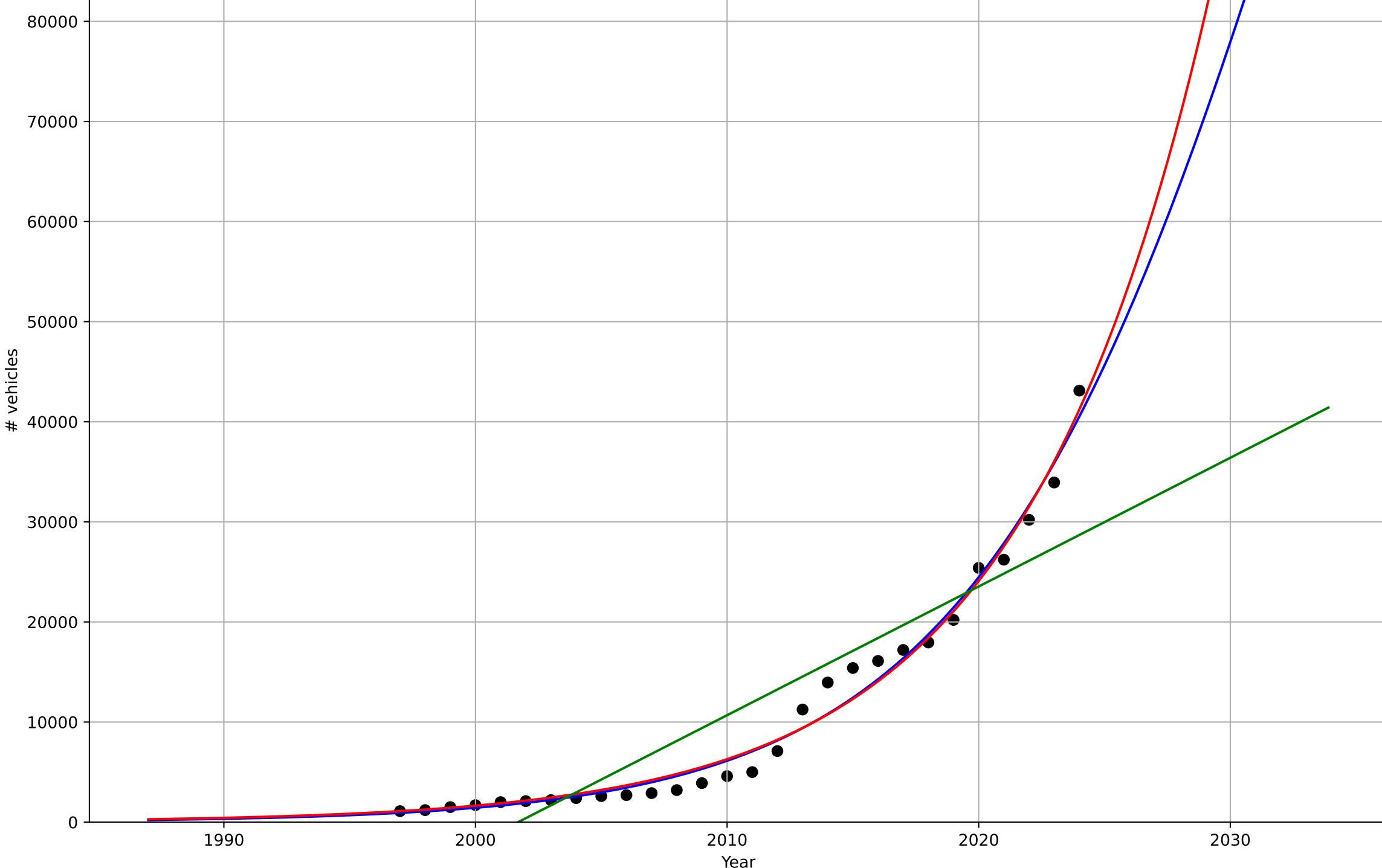
crs\_ger\_2.5Var\_d9\_m3



car sharing  
 Germany  
 2.9 Interdependence with Hardware  
 shared vehicles  
 # vehicles

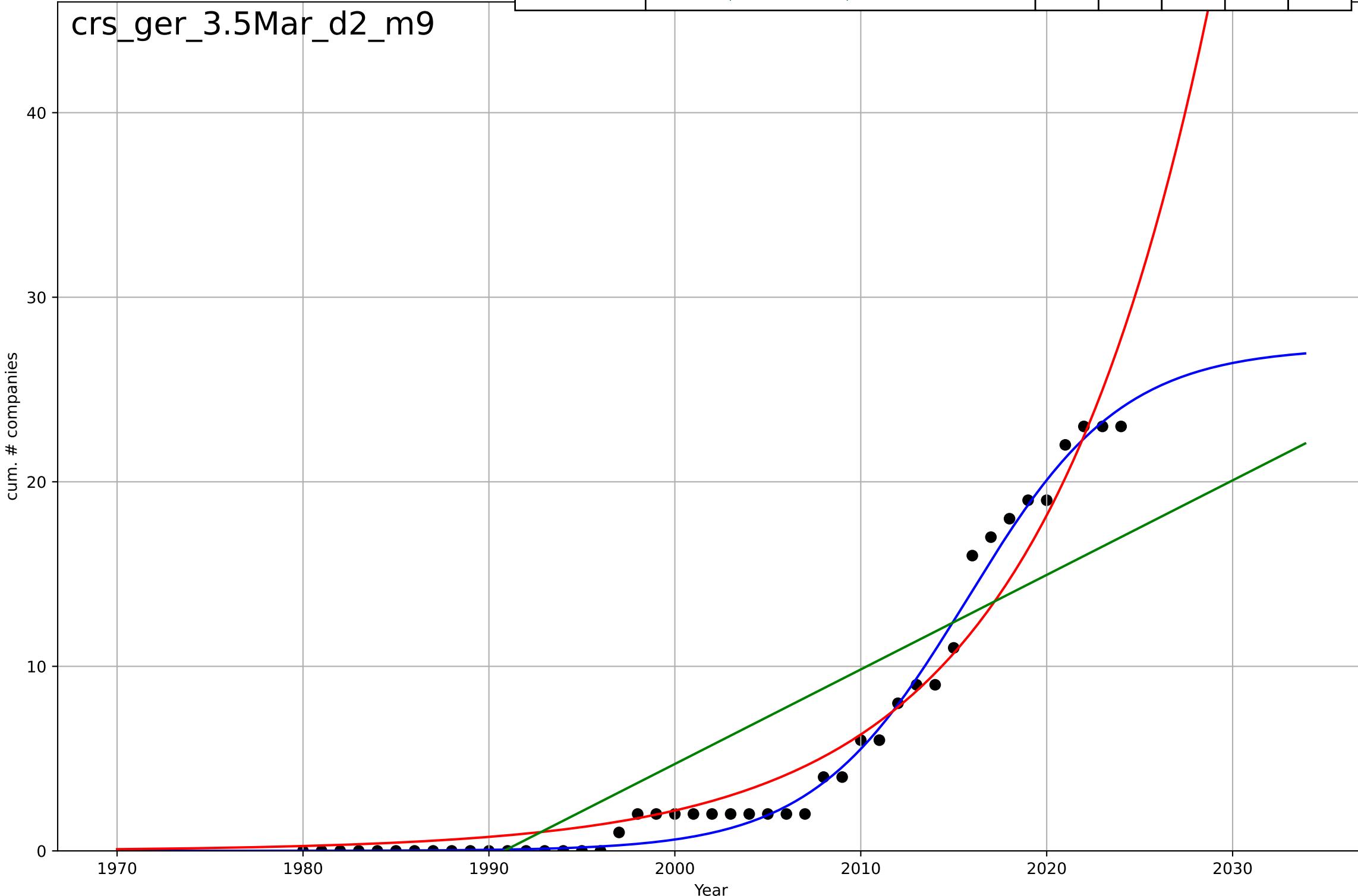
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2034, D_t=29.9, K=2.23e+05$	0.147	0.984	0.982	1.44e+03	1.16e+03
Exponential	$8.11e-06 \cdot \exp(0.134 \cdot (x-1858))$	0.134	0.984	0.982	1.46e+03	1.17e+03
Linear	intercept=-2.57e+06, slope=1.29e+03	1.29e+03	0.821	0.807	4.84e+03	3.95e+03

crs\_ger\_2.9Int\_d14\_m5



car sharing  
Germany  
3.5 Market Formation  
CumulativeStartups  
cum. # companies

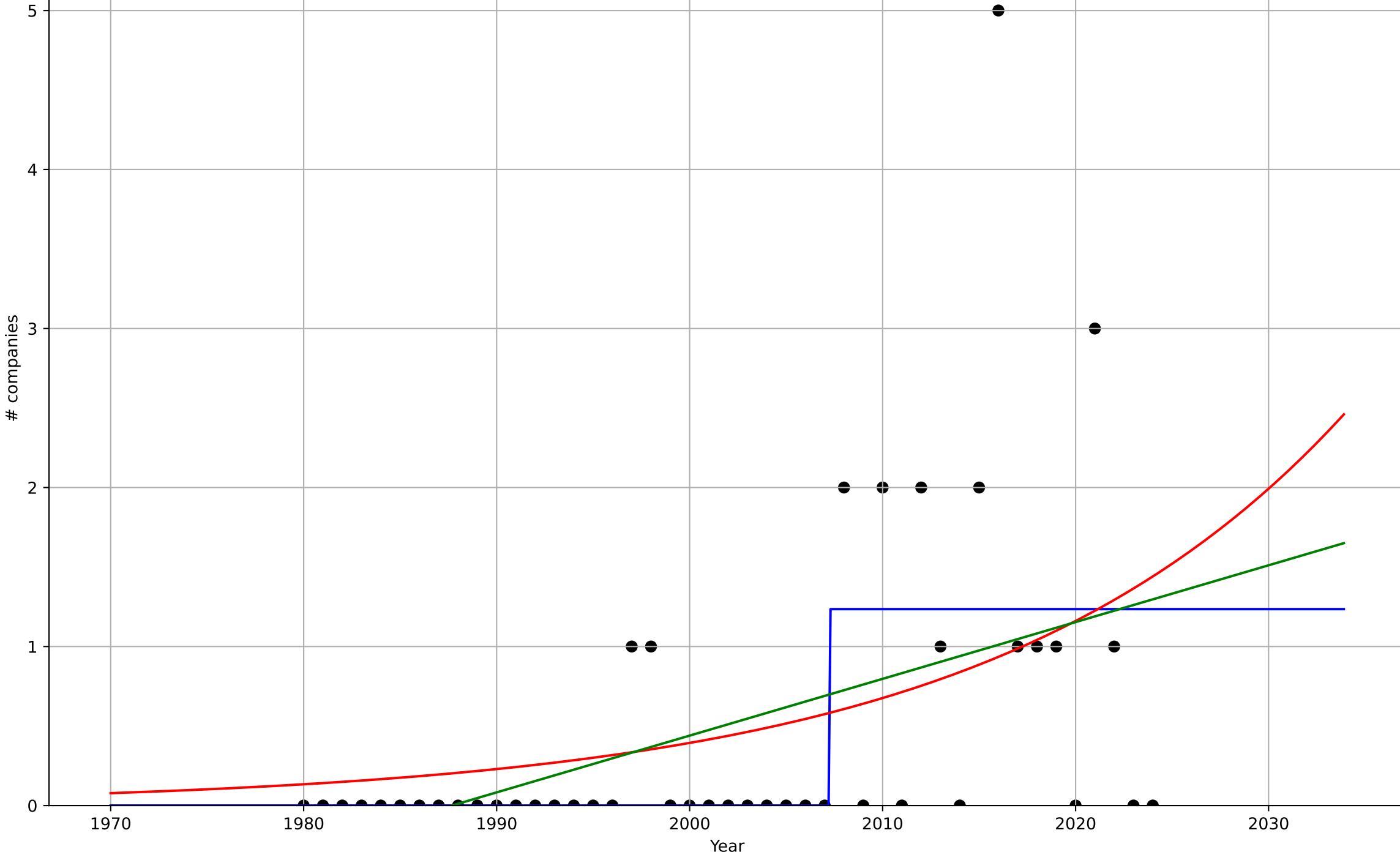
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2016, Dt=18.3, K=27.3	0.24	0.99	0.989	0.786	0.552
Exponential	9.79*exp(0.106*(x-2014))	0.106	0.957	0.955	1.59	1.16
Linear	intercept=-1.02e+03, slope=0.512	0.512	0.745	0.732	3.9	3.47



car sharing  
 Germany  
 3.5 Market Formation  
 NewStartups  
 # companies

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2007, Dt=0.0034, K=1.24	1.29e+03	0.314	0.263	0.831	0.426
Exponential	0.225*exp(0.0541*(x-1990))	0.0541	0.184	0.145	0.906	0.597
Linear	intercept=-71, slope=0.0357	0.0357	0.214	0.176	0.889	0.579

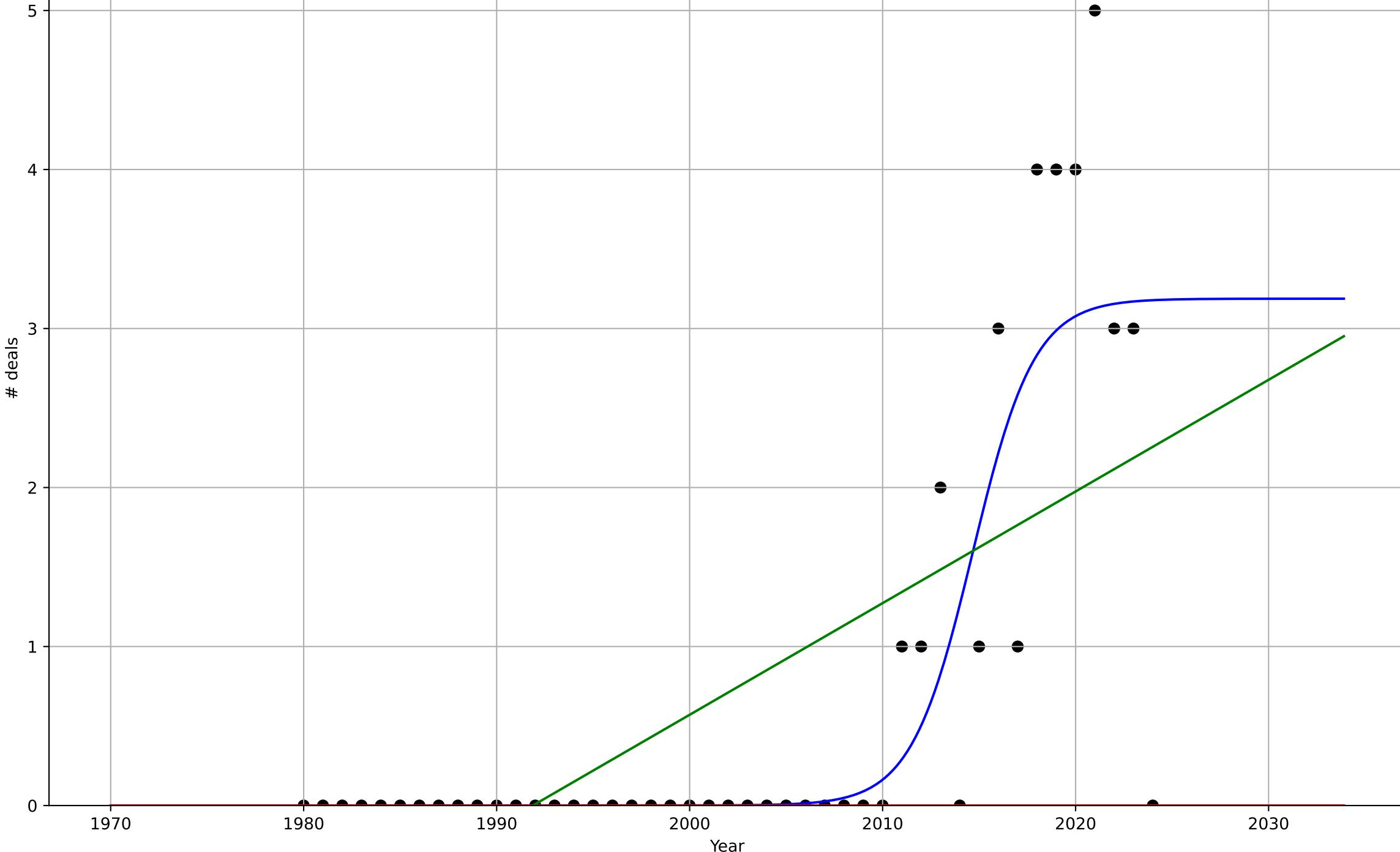
crs\_ger\_3.5Mar\_d3\_m1



car sharing  
 Germany  
 3.5 Market Formation  
 PrivateEquityDeals  
 # deals

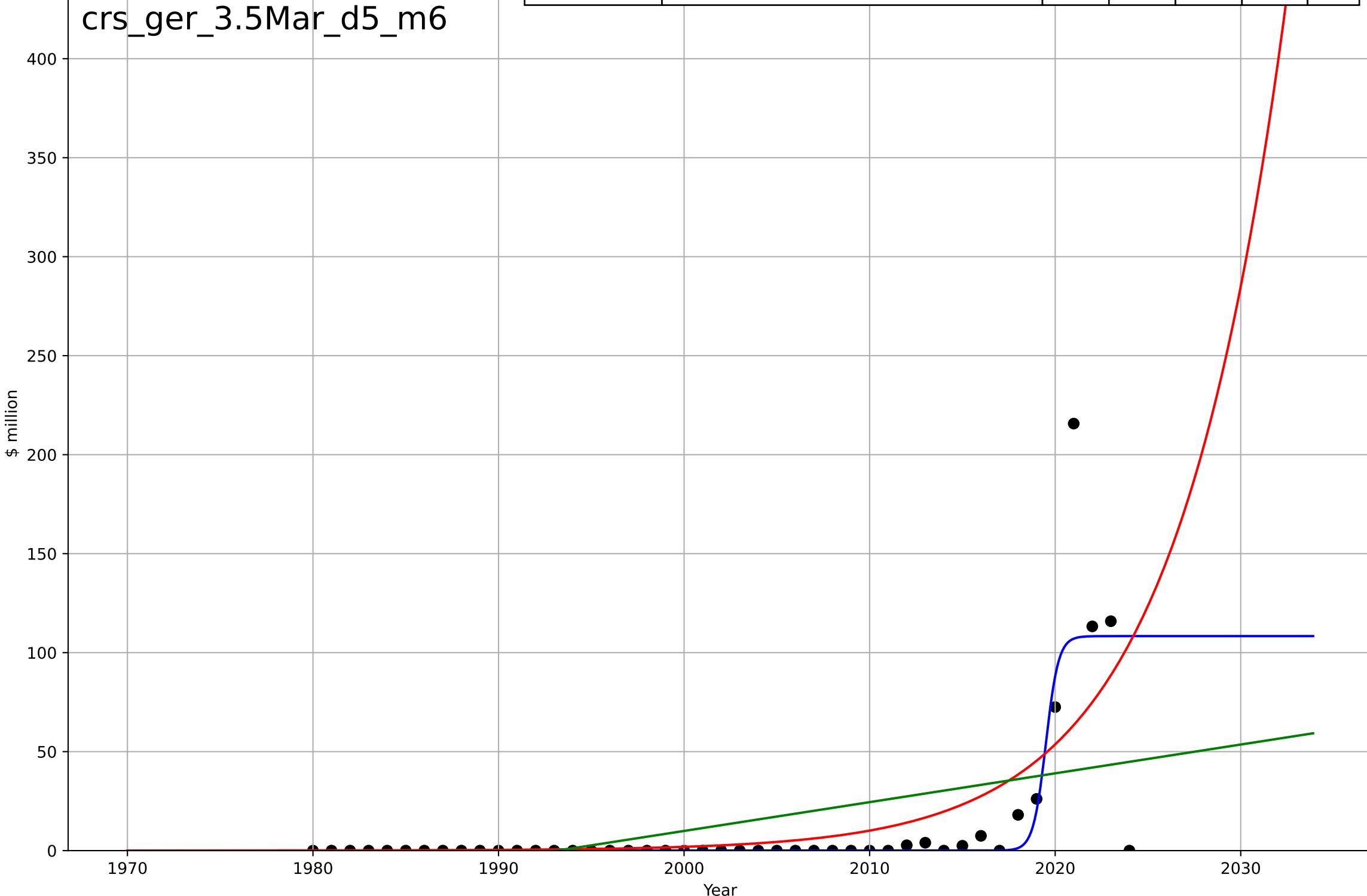
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2015, Dt=7.02, K=3.19	0.626	0.714	0.694	0.735	0.347
Exponential	1.55e+03*exp(0.00765*(x-157596))	0.00765	-0.267	-0.327	1.55	0.711
Linear	intercept=-140, slope=0.0702	0.0702	0.439	0.412	1.03	0.806

crs\_ger\_3.5Mar\_d4\_m2



car sharing  
 Germany  
 3.5 Market Formation  
 PrivateEquityInvestment  
 \$ million

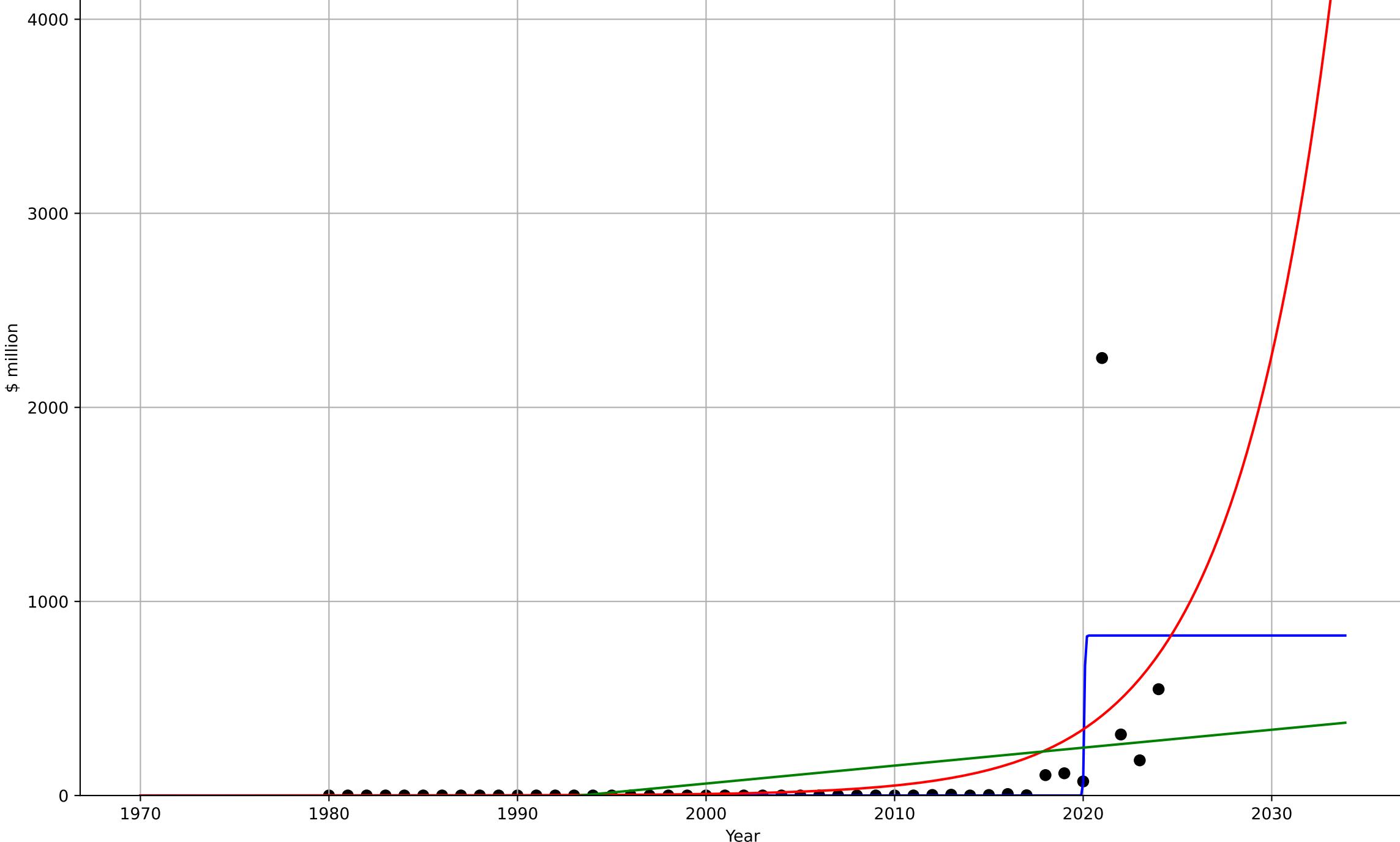
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2019, Dt=1.49, K=108	2.94	0.662	0.637	23.2	6.32
Exponential	2.43*exp(0.167*(x-2001))	0.167	0.434	0.407	30	12.8
Linear	intercept=-2.9e+03, slope=1.45	1.45	0.224	0.187	35.2	21.7



car sharing  
Germany  
3.5 Market Formation  
TotalFundraisingAmount  
\$ million

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2020, D_t=0.115, K=824$	38.1	0.463	0.424	250	68.8
Exponential	$5.23e-05 \cdot \exp(0.19 \cdot (x-1937))$	0.19	0.264	0.229	293	95.3
Linear	intercept=-1.84e+04, slope=9.24	9.24	0.123	0.0816	320	142

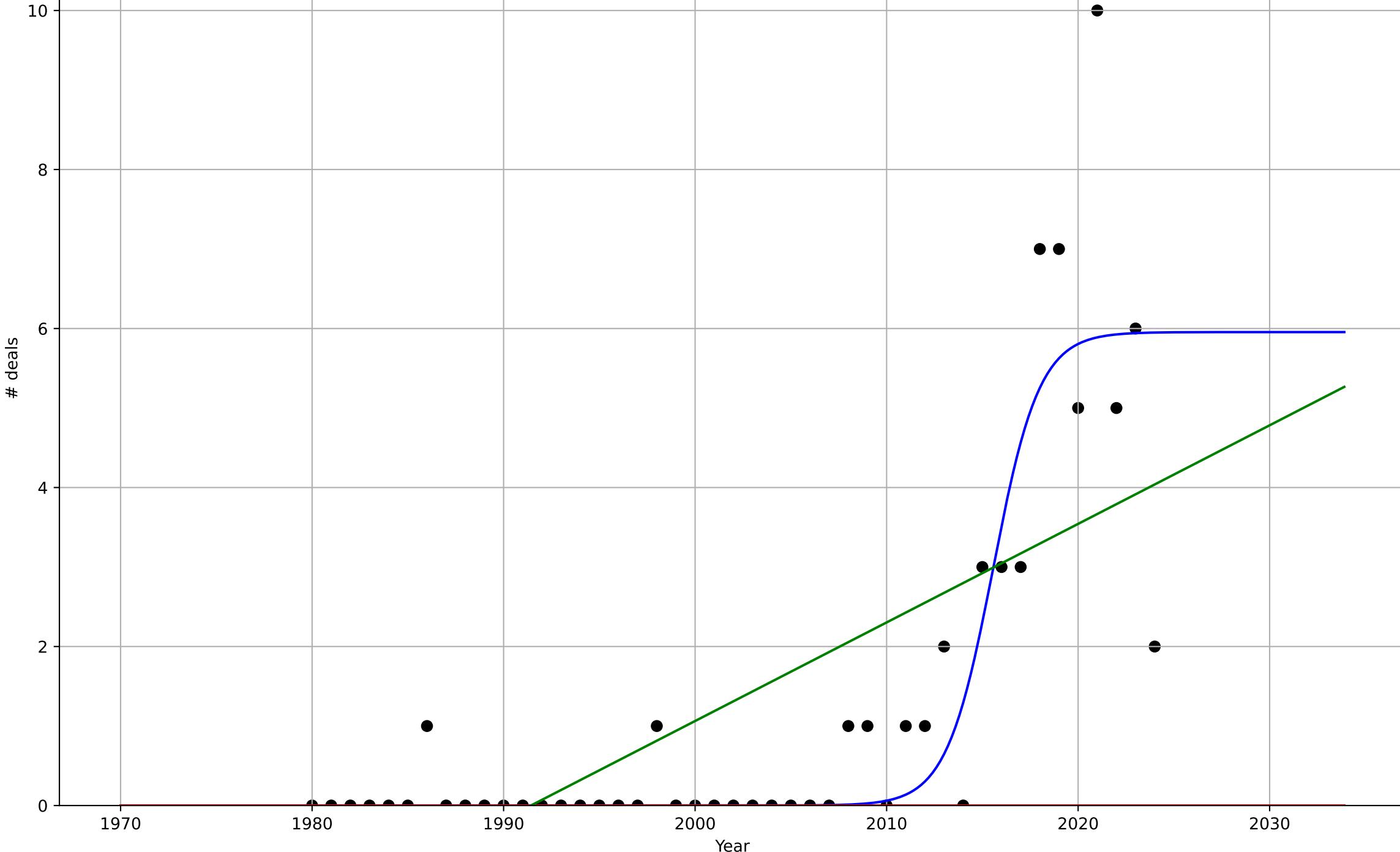
crs\_ger\_3.5Mar\_d6\_m6



car sharing  
 Germany  
 3.5 Market Formation  
 TotalFundraisingDeals  
 # deals

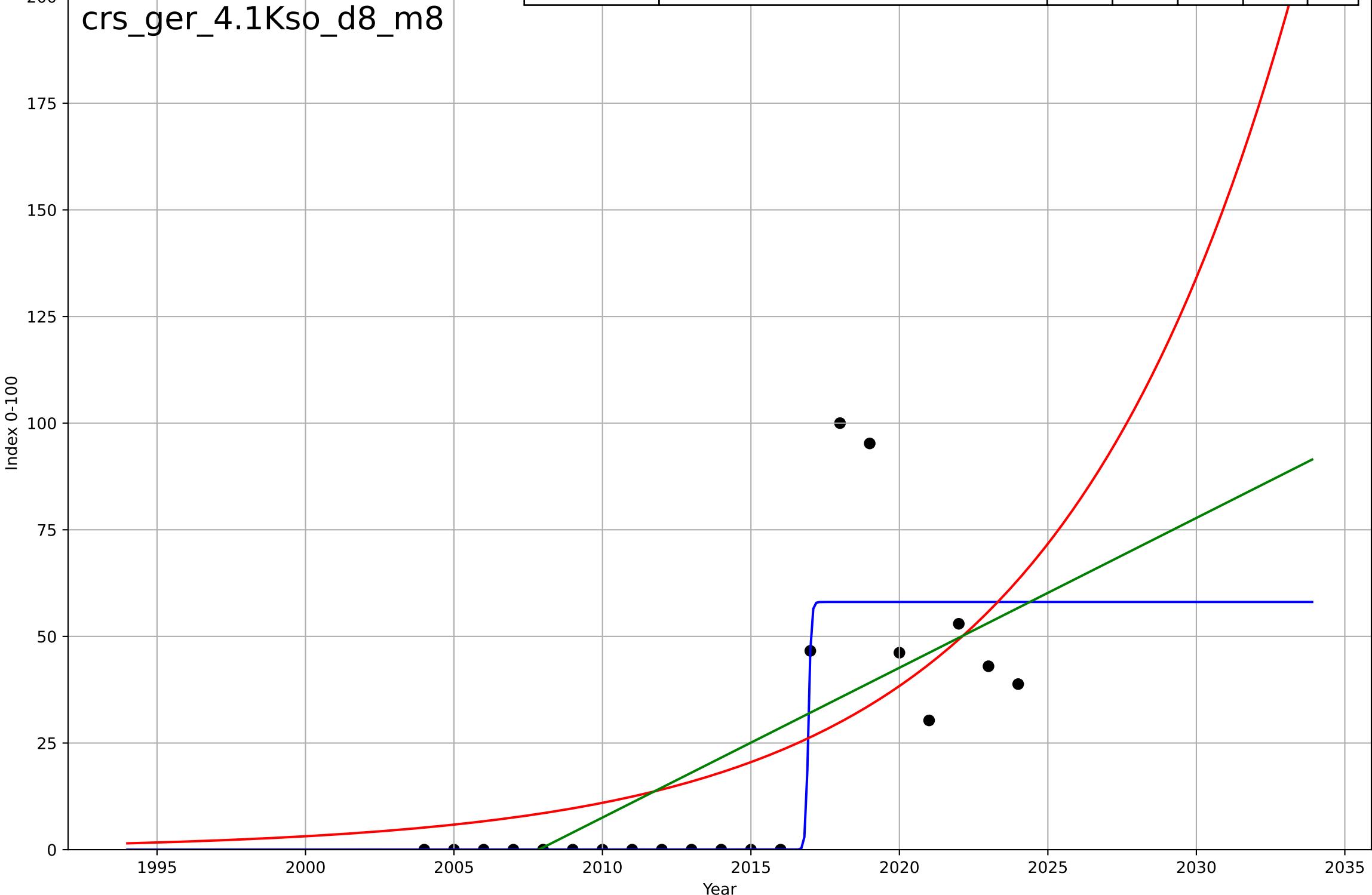
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2016, Dt=5.34, K=5.96	0.823	0.795	0.78	1.06	0.533
Exponential	1.55e+03*exp(0.0127*(x-157700))	0.0127	-0.312	-0.375	2.69	1.31
Linear	intercept=-247, slope=0.124	0.124	0.471	0.446	1.71	1.26

crs\_ger\_3.5Mar\_d7\_m2



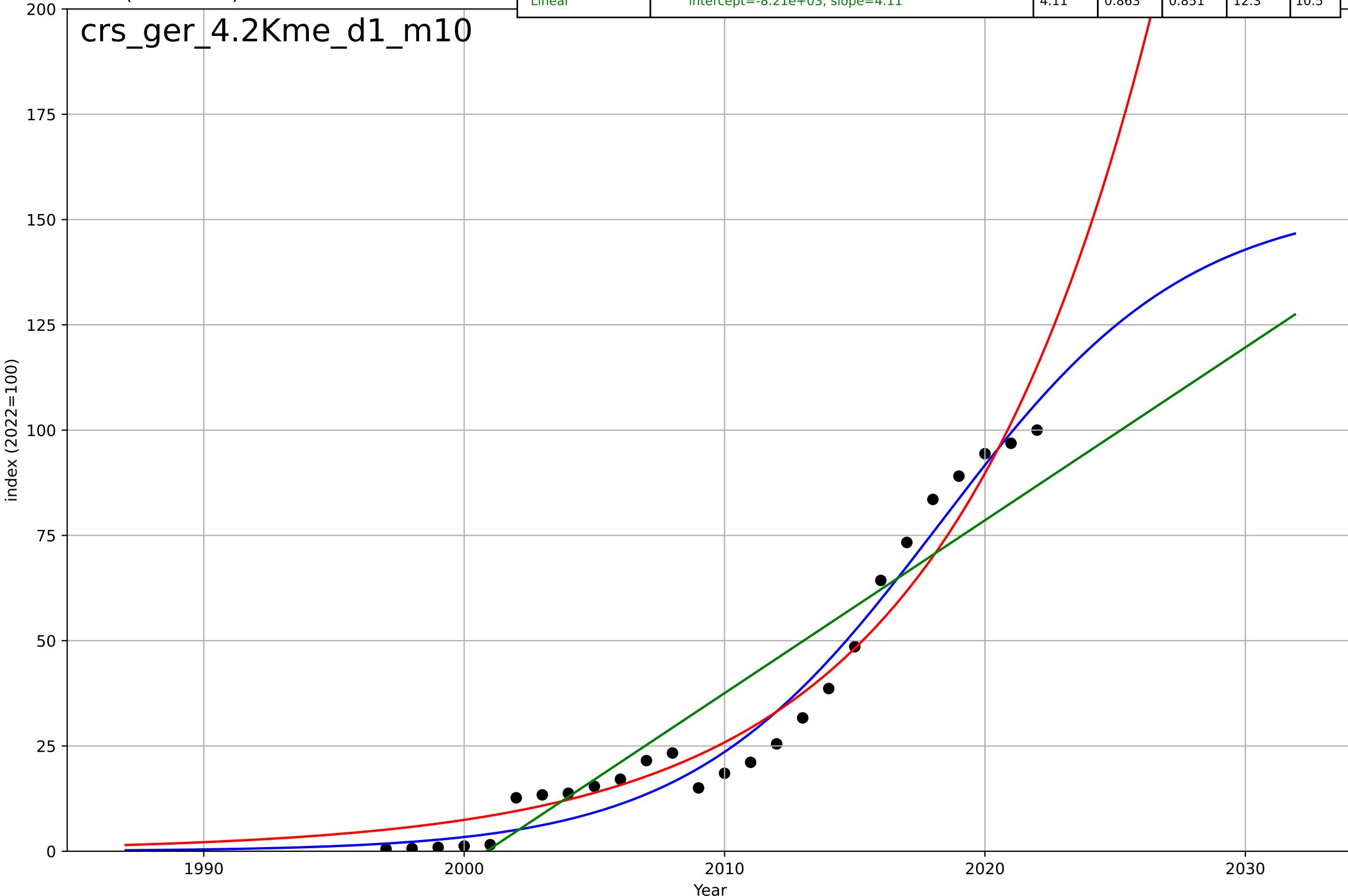
car sharing  
 Germany  
 4.1 Knowledge Flows (social networks)  
 annualised Google search frequency (index 100)  
 Index 0-100

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2017, D_t=0.203, K=58.1$	21.6	0.774	0.734	14.9	7.53
Exponential	$0.66 \cdot \exp(0.125 \cdot (x-1988))$	0.125	0.398	0.331	24.4	17.7
Linear	intercept=-7.05e+03, slope=3.51	3.51	0.459	0.399	23.1	16.7



car sharing  
 Germany  
 4.2 Knowledge Flows (mass media)  
 "car sharing" mention in books  
 index (2022=100)

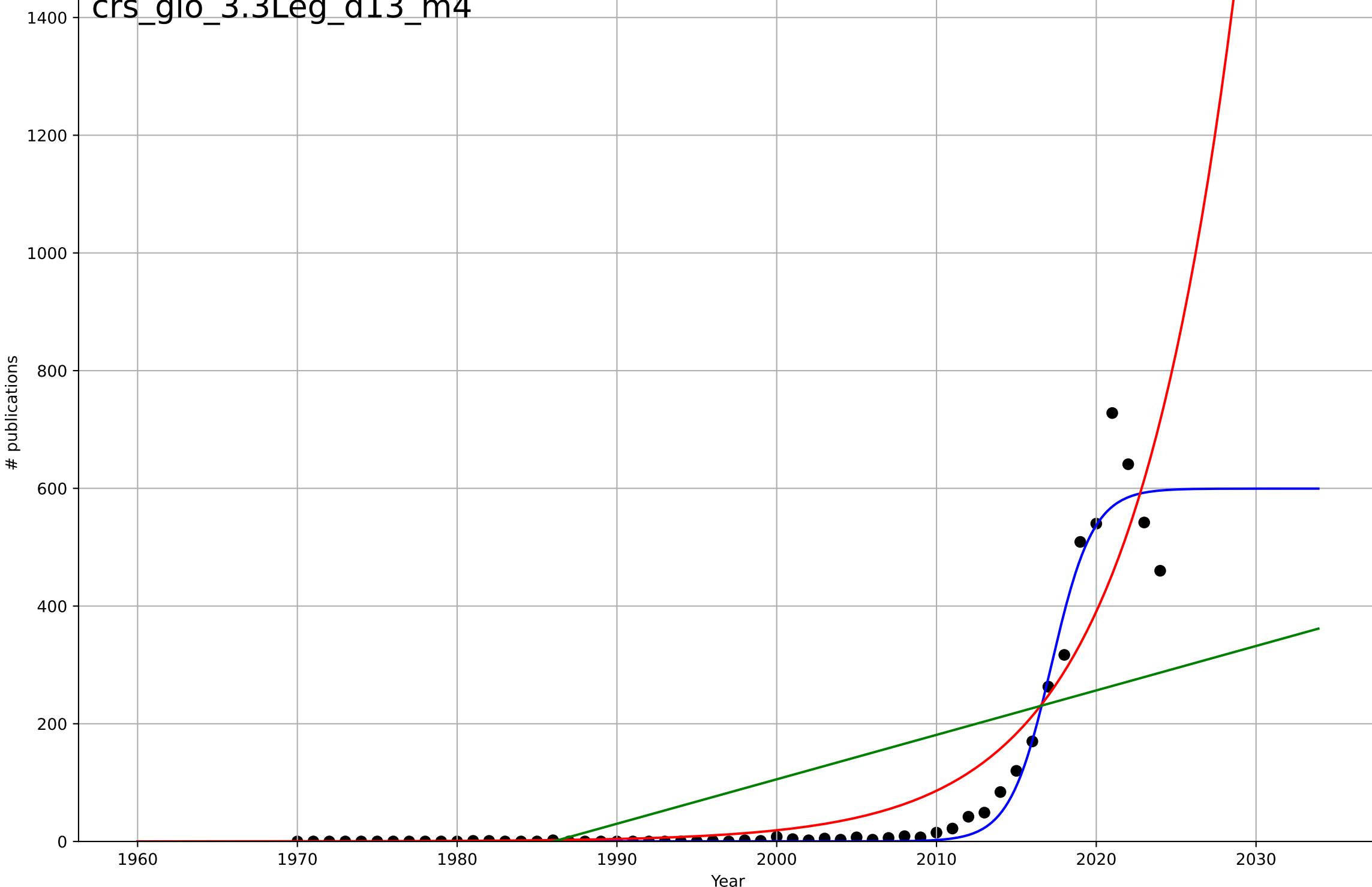
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2018, Dt=21, K=155	0.209	0.971	0.967	5.61	5.18
Exponential	0.182*exp(0.124*(x-1970))	0.124	0.955	0.951	7.03	6
Linear	intercept=-8.21e+03, slope=4.11	4.11	0.863	0.851	12.3	10.5



car sharing  
 Global  
 3.3 Risk & Uncertainty (Shared Expectations)  
 scientific publications  
 # publications

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2017, Dt=5.73, K=600	0.767	0.967	0.965	33.1	13.3
Exponential	0.000153*exp(0.151*(x-1922))	0.151	0.857	0.852	69.2	37
Linear	intercept=-1.5e+04, slope=7.55	7.55	0.429	0.407	138	107

crs\_glo\_3.3Leg\_d13\_m4



car sharing  
 Global  
 3.5 Market Formation  
 CumulativeStartups  
 cum. # companies

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2016, D_t=17, K=325$	0.259	0.994	0.994	6.99	5.88
Exponential	$0.0246 \cdot \exp(0.108 \cdot (x-1936))$	0.108	0.959	0.957	18.8	13.6
Linear	intercept=-1.21e+04, slope=6.09	6.09	0.726	0.713	48.5	42.9

crs\_glo\_3.5Mar\_d2\_m9

cum. # companies

500

400

300

200

100

0

1970

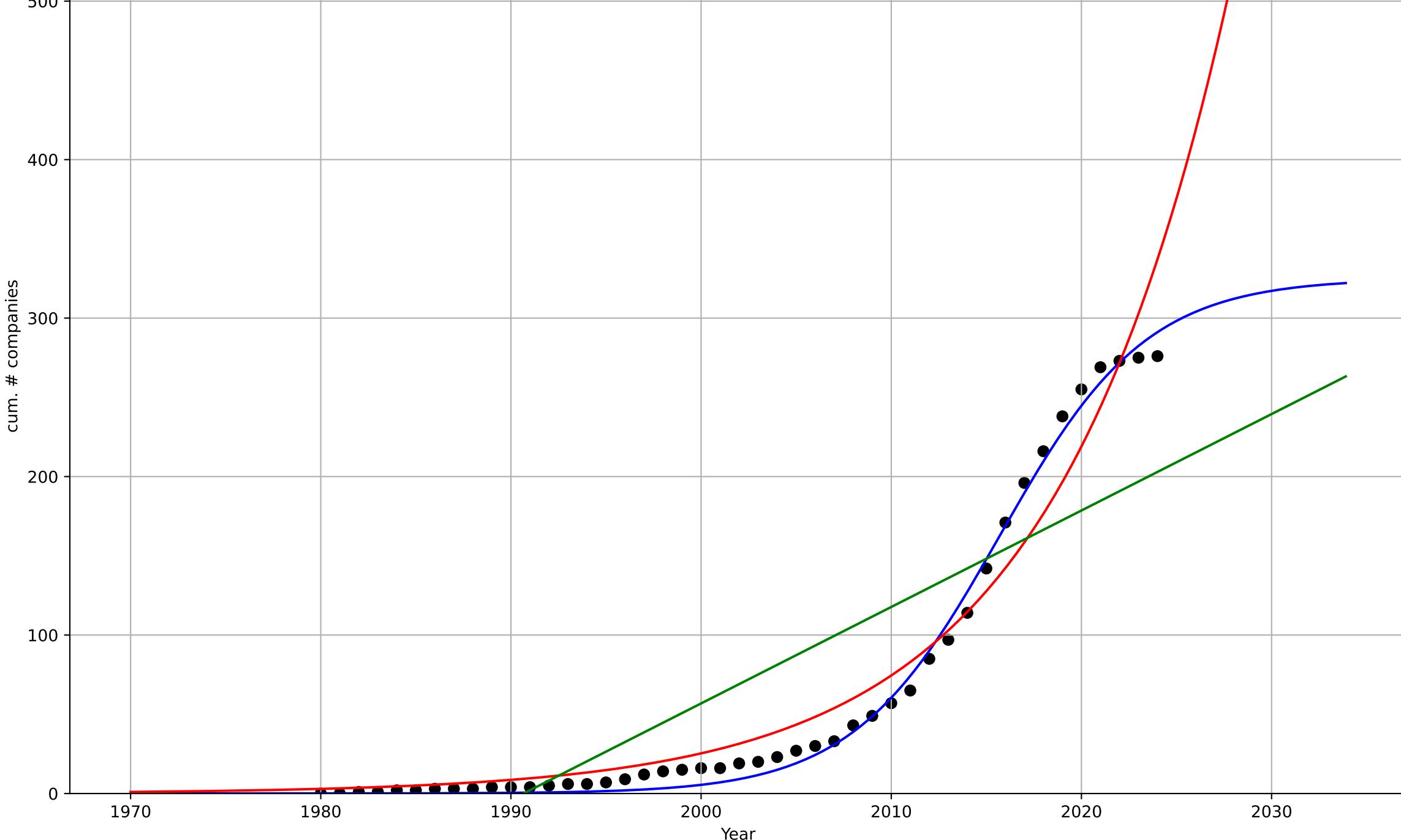
1980

1990

Year

2020

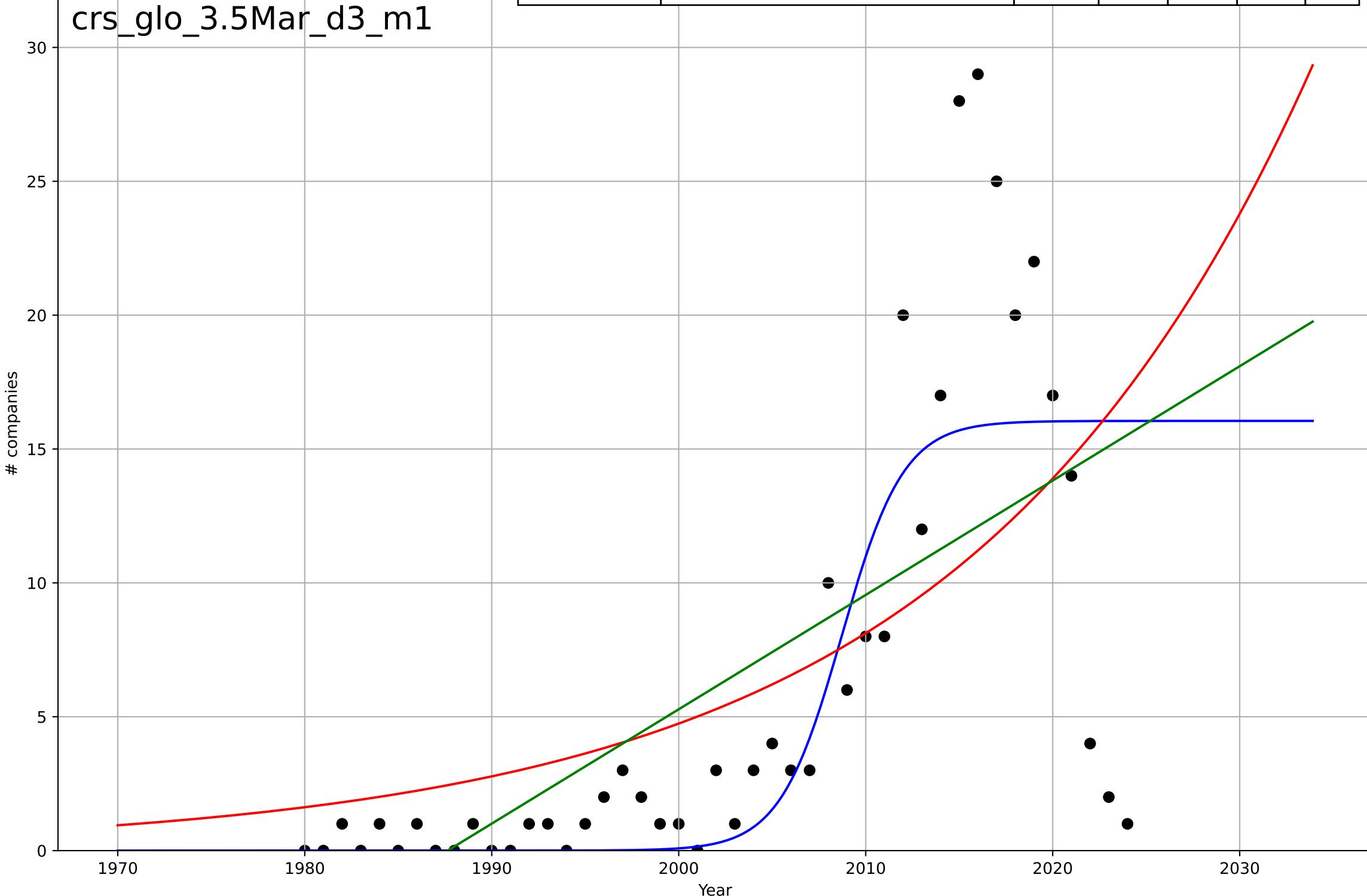
2030



car sharing  
 Global  
 3.5 Market Formation  
 NewStartups  
 # companies

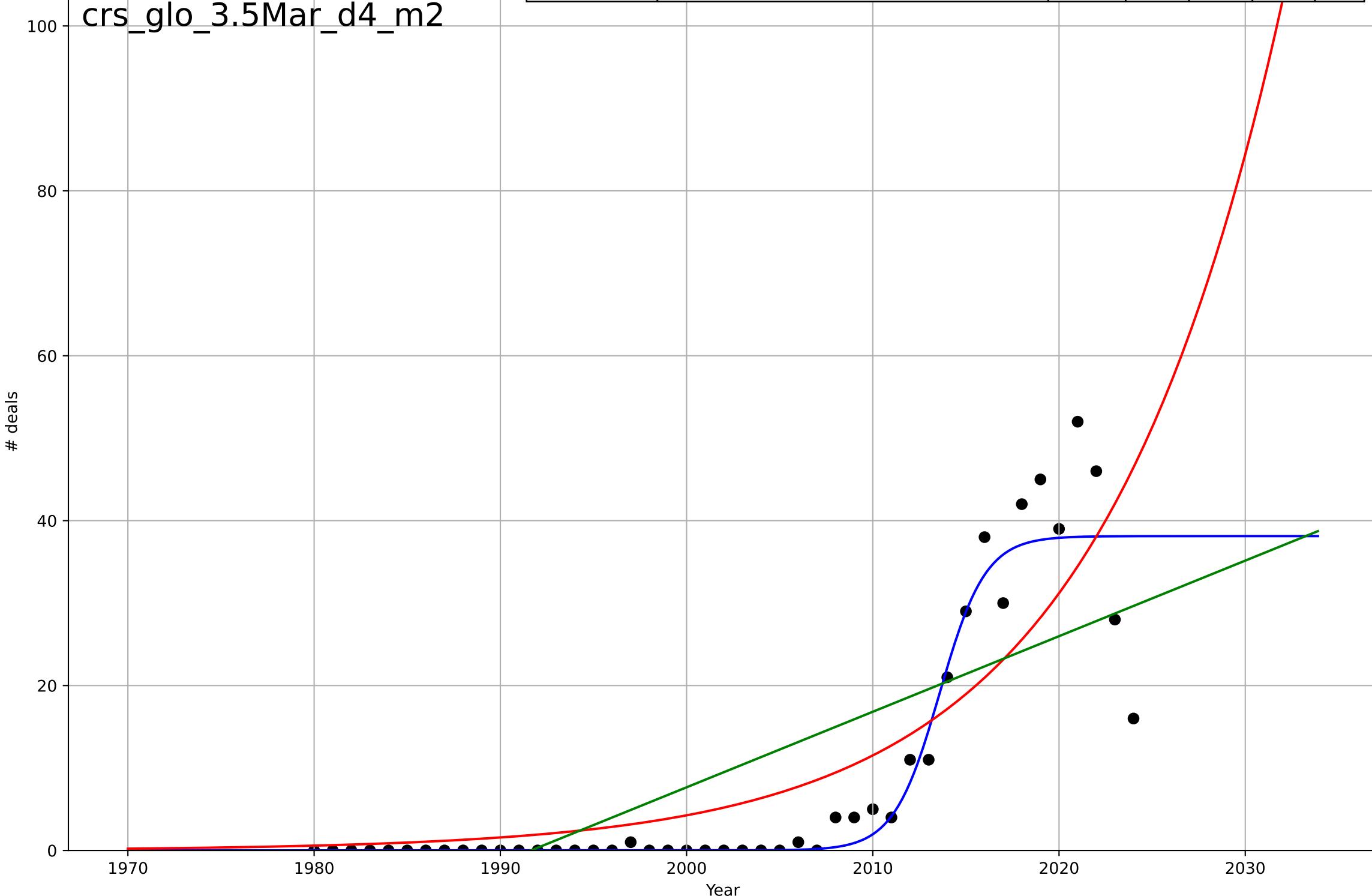
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2009, Dt=7.27, K=16.1	0.604	0.623	0.596	5.11	3.08
Exponential	9.14*exp(0.0537*(x-2012))	0.0537	0.384	0.354	6.54	4.57
Linear	intercept=-849, slope=0.427	0.427	0.443	0.417	6.22	4.44

crs\_glo\_3.5Mar\_d3\_m1



car sharing  
 Global  
 3.5 Market Formation  
 PrivateEquityDeals  
 # deals

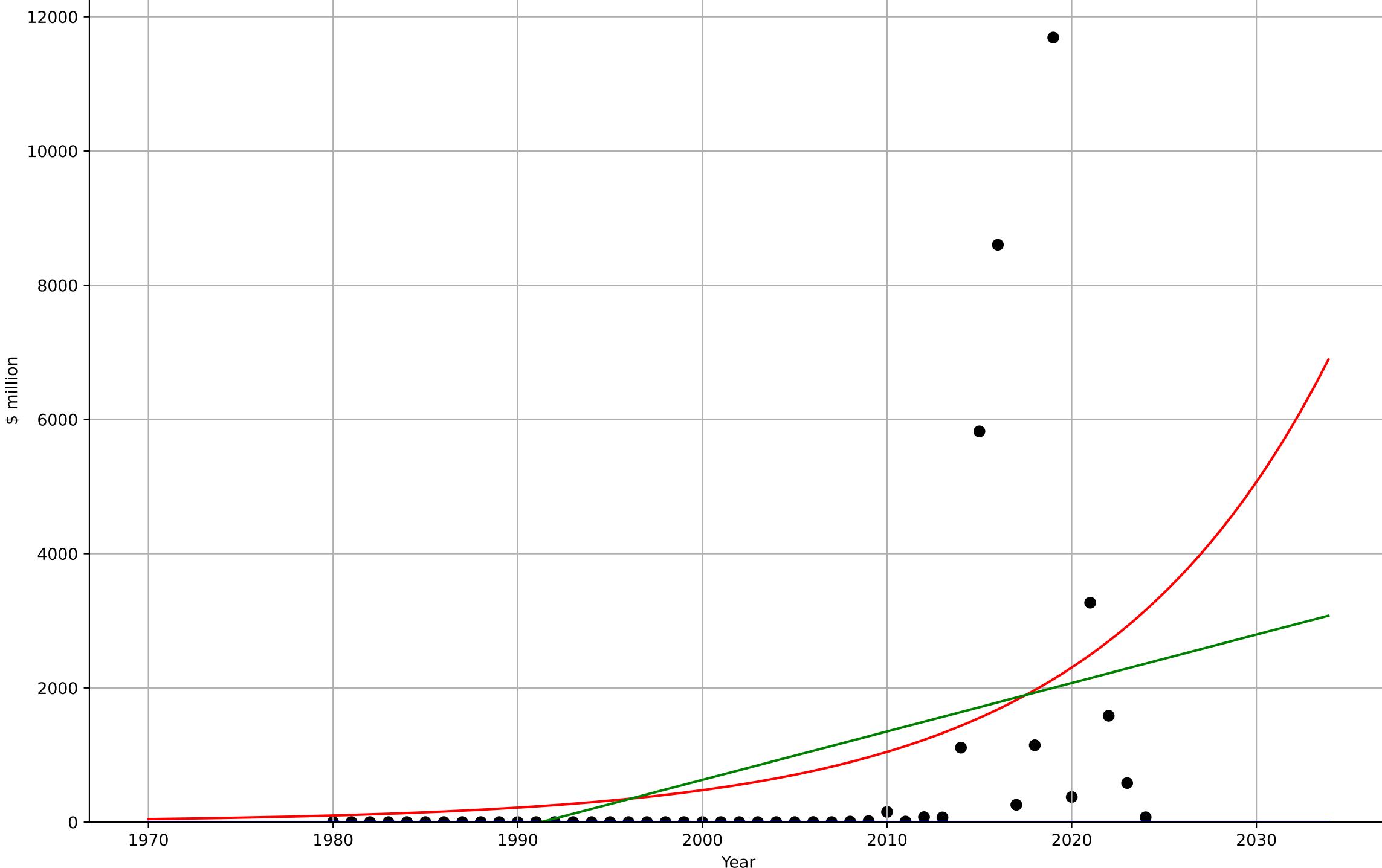
Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	$t_0=2014, D_t=5.41, K=38.1$	0.813	0.906	0.899	4.81	2.17
Exponential	$6.93 \cdot \exp(0.0996 \cdot (x-2005))$	0.0996	0.714	0.7	8.39	5.91
Linear	intercept=-1.83e+03, slope=0.916	0.916	0.576	0.556	10.2	8.54



car sharing  
 Global  
 3.5 Market Formation  
 PrivateEquityInvestment  
 \$ million

	Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
	Logistic	$t_0=2284, D_t=25.9, K=1.17e+04$	0.169	-0.115	-0.197	2.41e+03	774
	Exponential	$0.00588 \cdot \exp(0.0789 \cdot (x-1857))$	0.0789	0.177	0.137	2.07e+03	1.08e+03
	Linear	intercept=-1.44e+05, slope=72.2	72.2	0.169	0.129	2.08e+03	1.19e+03

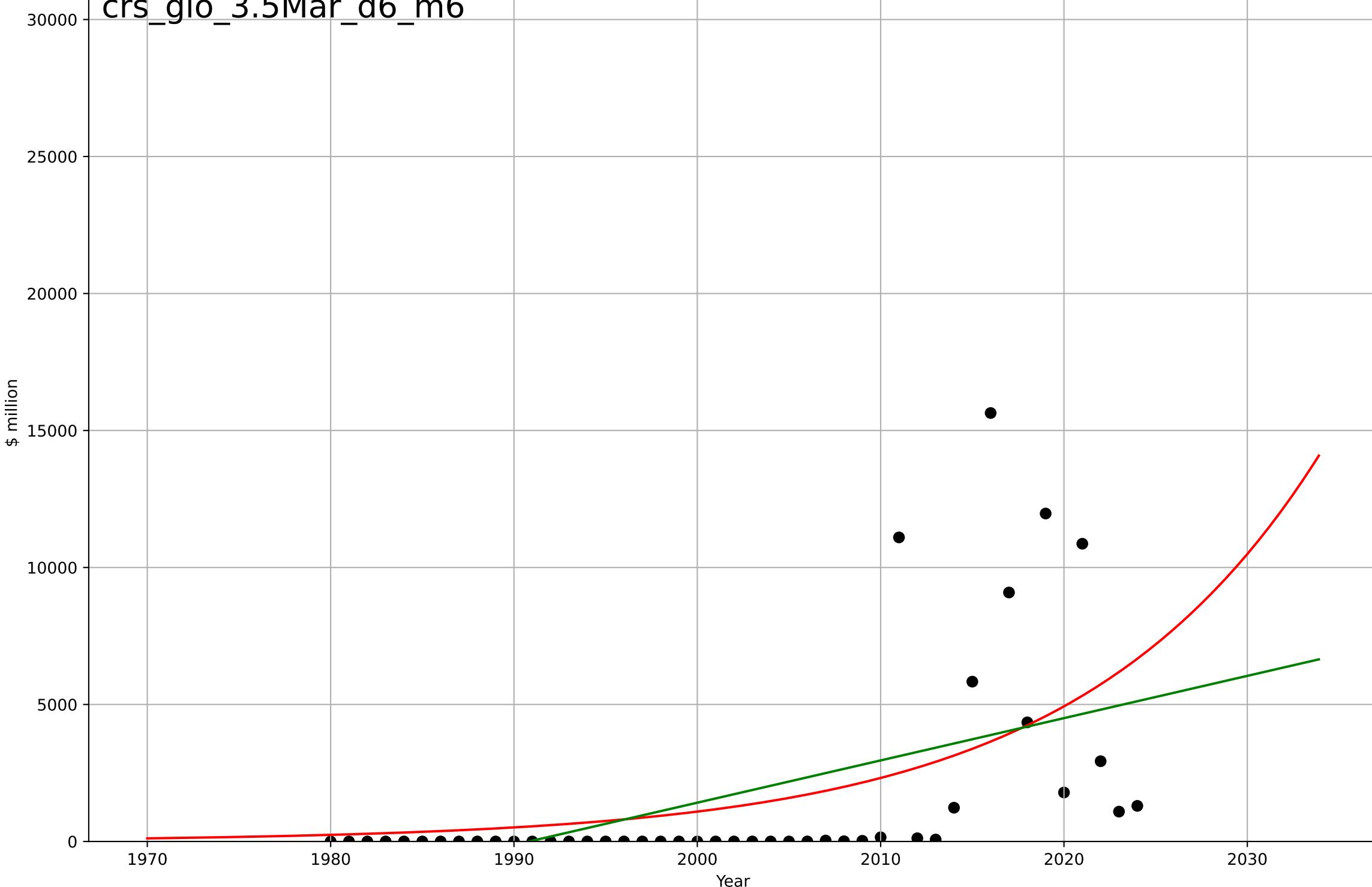
crs\_glo\_3.5Mar\_d5\_m6



car sharing  
 Global  
 3.5 Market Formation  
 TotalFundraisingAmount  
 \$ million

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=nan, Dt=nan, K=nan	nan	nan	nan	nan	nan
Exponential	0.0176*exp(0.0755*(x-1854))	0.0755	0.283	0.249	3.21e+03	2.08e+03
Linear	intercept=-3.07e+05, slope=154	154	0.279	0.245	3.22e+03	2.26e+03

crs\_glo\_3.5Mar\_d6\_m6



car sharing  
 Global  
 3.5 Market Formation  
 TotalFundraisingDeals  
 # deals

Curve type	Curve parameters	Slope	R2	R2adj	RMSE	MAE
Logistic	t0=2014, Dt=6.45, K=57.9	0.681	0.922	0.916	6.46	3.1
Exponential	1.68*exp(0.101*(x-1987))	0.101	0.753	0.742	11.5	7.95
Linear	intercept=-2.75e+03, slope=1.38	1.38	0.601	0.582	14.6	12.4

