

Catalogs

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Table S1. the p_r and percent change.

city	Shrinkage grade 2000-2020	2000-2010		2010-2020		2000-2020	
		Pr	percent change (%)	Pr	percent change (%)	Pr	percent change (%)
tangshan	slow growth	-7.62	0.096	-1.86	-0.185	-9.62	-0.089
handan	rapid growth	-9.53	0.233	-2.48	-0.184	-12.25	0.049
xingtai	slow growth	-6.90	0.054	-0.10	-0.262	-7.00	-0.208
zhangjikou	slight shrinkage	-3.69	-0.066	5.21	-0.324	1.72	-0.390
chengde	slow growth	-4.48	-0.033	3.42	-0.215	-0.91	-0.247
datong	slow growth	-10.59	0.107	6.62	-0.281	-3.27	-0.173
yangquan	slow growth	-7.49	0.016	3.70	-0.087	-3.52	-0.071
changzhi	slow growth	-6.23	0.010	4.64	-0.235	-1.30	-0.225
jincheng	slow growth	-5.52	-0.004	3.77	-0.147	-1.54	-0.151
shuozhou	slow growth	-18.09	0.133	7.20	-0.152	-9.59	-0.019
jinzhong	rapid growth	-7.81	0.045	-3.95	-0.031	-12.06	0.014
yuncheng	slight shrinkage	-6.60	0.029	7.15	-0.454	1.03	-0.425
xinzhou	slight shrinkage	-4.40	-0.031	12.52	-0.387	8.67	-0.418
linfen	slow growth	-9.12	0.098	7.99	-0.407	-0.40	-0.308
lvliang	slow growth	-10.30	0.113	9.01	-0.378	-0.36	-0.265
baotou	rapid growth	-15.77	0.171	-2.04	-0.062	-18.13	0.109
hulunbeier	moderate shrinkage	5.13	-0.219	12.28	-0.317	16.78	-0.537
chifeng	slight shrinkage	2.13	-0.262	7.03	-0.379	9.01	-0.642
eerduosi	rapid growth	-42.32	0.373	-10.57	0.073	-57.37	0.446
wuhai	rapid growth	-24.64	0.060	-4.45	-0.003	-30.19	0.057
anshan	slight shrinkage	-1.73	-0.109	8.79	-0.364	7.22	-0.473
fushun	significant shrinkage	5.41	-0.189	19.00	-0.368	23.38	-0.557
benxi	moderate shrinkage	-9.07	0.038	22.43	-0.336	15.40	-0.298
fluxin	moderate shrinkage	3.73	-0.134	9.46	-0.190	12.83	-0.324
panjin	slow growth	-10.36	0.043	0.20	-0.054	-10.14	-0.011
huludao	slight shrinkage	-1.66	-0.080	7.22	-0.233	5.68	-0.312
jilin	moderate shrinkage	1.61	-0.248	17.89	-0.725	19.21	-0.973
liaoyuan	significant shrinkage	7.17	-0.122	15.25	-0.171	21.32	-0.294
tonghua	significant shrinkage	-0.71	-0.088	22.04	-0.450	21.48	-0.538
baishan	significant shrinkage	1.24	-0.069	26.56	-0.293	27.47	-0.361
songyuan	moderate shrinkage	-4.12	-0.035	21.77	-0.552	18.55	-0.587
yanbian	moderate shrinkage	-2.77	-0.050	14.49	-0.318	12.13	-0.368
jixi	significant shrinkage	4.31	-0.147	19.34	-0.325	22.82	-0.472
hegang	moderate shrinkage	3.68	-0.078	15.81	-0.158	18.91	-0.236
shuangyashan	moderate shrinkage	-0.99	-0.052	17.35	-0.235	16.54	-0.287
daqing	slow growth	-12.66	0.132	4.23	-0.196	-7.89	-0.064
yichun	significant shrinkage	8.12	-0.130	23.45	-0.234	29.67	-0.364
qitaihe	moderate shrinkage	-14.00	0.049	25.08	-0.198	14.59	-0.149

mudanjiang	moderate shrinkage	-4.26	-0.031	18.17	-0.465	14.69	-0.496
heihe	significant shrinkage	-0.12	-0.071	23.15	-0.337	23.05	-0.408
xuzhou	slow growth	3.72	-0.633	-5.85	0.033	-1.91	-0.600
sugian	slight shrinkage	8.37	-0.545	-5.58	0.009	3.26	-0.536
huzhou	rapid growth	-10.21	0.086	-16.38	0.227	-28.26	0.313
huaibei	slow growth	-12.88	0.099	7.06	-0.186	-4.90	-0.087
bozhou	slight shrinkage	4.31	-0.383	-2.82	-0.086	1.62	-0.469
suzhou	slight shrinkage	2.96	-0.360	0.53	-0.221	3.48	-0.582
huainan	slight shrinkage	-5.99	0.004	9.23	-0.344	3.80	-0.340
chuzhou	slight shrinkage	1.59	-0.220	-1.25	-0.113	0.36	-0.334
maanshan	slow growth	-2.13	-0.059	1.95	-0.113	-0.13	-0.172
xuancheng	slight shrinkage	4.76	-0.209	1.30	-0.119	6.00	-0.328
tongling	slight shrinkage	-8.32	0.027	16.06	-0.236	9.08	-0.209
chizhou	slight shrinkage	-0.94	-0.050	4.26	-0.095	3.36	-0.145
sanming	slight shrinkage	2.75	-0.164	0.68	-0.106	3.40	-0.270
nanping	slight shrinkage	6.07	-0.249	-1.33	-0.075	4.83	-0.324
longyan	slow growth	4.65	-0.209	-6.41	0.020	-1.47	-0.189
jingdezhen	slow growth	-7.23	0.016	-1.98	-0.037	-9.36	-0.022
pingxiang	slow growth	-5.39	-0.005	2.75	-0.106	-2.49	-0.111
xinyu	rapid growth	-6.26	0.004	-5.59	0.002	-12.19	0.006
ganzhou	rapid growth	-6.58	0.046	-7.19	0.111	-14.24	0.157
yichun1	slight shrinkage	-6.69	0.034	7.60	-0.495	1.42	-0.462
zibo	rapid growth	-8.27	0.077	-3.83	-0.047	-12.42	0.030
zaozhuang	slow growth	-5.18	-0.016	-3.39	-0.051	-8.74	-0.067
dongying	rapid growth	-13.50	0.103	-7.77	0.035	-22.33	0.139
jining	slow growth	-4.41	-0.080	-3.41	-0.108	-7.98	-0.188
taian	slow growth	-2.99	-0.112	0.40	-0.222	-2.58	-0.334
linyi	slow growth	-0.97	-0.358	-9.75	0.316	-10.82	-0.042
luoyang	rapid growth	-5.24	-0.026	-7.67	0.110	-13.31	0.084
pingdingshan	slow growth	-2.19	-0.129	-1.63	-0.128	-3.85	-0.257
hebi	rapid growth	-11.94	0.064	0.21	-0.061	-11.71	0.003
jiaozuo	slow growth	-7.64	0.045	0.54	-0.147	-7.06	-0.101
puyang	slow growth	-4.06	-0.045	-4.82	-0.013	-9.07	-0.057
sanmenxia	slight shrinkage	-2.41	-0.055	8.52	-0.218	6.31	-0.273
nanyang	slow growth	-7.16	0.097	5.30	-0.771	-1.48	-0.674
huangshi	slight shrinkage	1.94	-0.143	-1.64	-0.063	0.34	-0.206
ezhou	slow growth	-2.48	-0.025	-2.93	-0.018	-5.48	-0.043
hengyang	slight shrinkage	-5.36	-0.022	7.04	-0.625	2.06	-0.647
shaoyang	slight shrinkage	-1.55	-0.220	7.22	-0.627	5.77	-0.848
chenzhou	slow growth	-5.98	0.006	-1.82	-0.113	-7.92	-0.107
loudi	slow growth	-0.04	-0.163	-1.12	-0.112	-1.16	-0.275
shaoguan	slow growth	-3.42	-0.048	-0.89	-0.089	-4.34	-0.137
yunfu	slow growth	-9.65	0.062	-0.88	-0.074	-10.62	-0.012

baise	slow growth	-4.04	-0.044	-3.02	-0.056	-7.18	-0.100
hezhou	slow growth	-0.89	-0.071	-2.75	-0.035	-3.67	-0.106
hechi	slight shrinkage	4.38	-0.268	-1.45	-0.092	3.00	-0.360
zigong	moderate shrinkage	11.70	-0.396	7.08	-0.235	17.95	-0.631
panzhihua	slow growth	-11.22	0.044	0.16	-0.047	-11.04	-0.003
luzhou	slow growth	-2.83	-0.091	-0.85	-0.133	-3.70	-0.224
guangyuan	significant shrinkage	18.91	-0.564	7.18	-0.220	24.73	-0.784
nanhcong	moderate shrinkage	6.06	-0.591	10.69	-0.711	16.10	-1.302
guangan	significant shrinkage	22.27	-0.863	-1.54	-0.086	21.08	-0.949
dazhou	slight shrinkage	5.61	-0.493	1.51	-0.264	7.04	-0.757
yaan	slight shrinkage	0.97	-0.077	4.87	-0.109	5.79	-0.186
liupanshui	slow growth	-4.02	-0.036	-6.21	0.018	-10.48	-0.018
anshun	slow growth	1.34	-0.124	-7.45	0.035	-6.01	-0.089
qujing	slow growth	-7.12	0.054	1.52	-0.283	-5.48	-0.230
baoshan	slow growth	-6.74	0.016	3.00	-0.148	-3.53	-0.131
zhaotong	slow growth	-13.53	0.265	2.32	-0.282	-10.89	-0.017
puer	slight shrinkage	-2.52	-0.061	5.42	-0.193	3.04	-0.254
tongchuan	moderate shrinkage	-5.28	-0.003	16.31	-0.128	11.89	-0.131
baoji	slight shrinkage	-3.41	-0.064	10.62	-0.419	7.58	-0.483
xianyang	moderate shrinkage	-0.54	-0.192	19.39	-0.859	18.96	-1.051
weinan	moderate shrinkage	0.12	-0.233	11.30	-0.622	11.40	-0.855
yanan	rapid growth	-8.44	0.040	-4.37	-0.015	-13.18	0.025
yulin	rapid growth	-6.89	0.026	-8.07	0.065	-15.51	0.091
jinchang	slight shrinkage	-2.76	-0.010	5.61	-0.036	3.00	-0.046
baiyin	moderate shrinkage	0.64	-0.083	11.51	-0.204	12.07	-0.286
wuwei	significant shrinkage	1.11	-0.095	19.68	-0.321	20.57	-0.416
zhangye	slight shrinkage	4.09	-0.092	5.89	-0.095	9.73	-0.187
pingliang	moderate shrinkage	-0.05	-0.089	10.61	-0.233	10.57	-0.322
qingyang	slight shrinkage	8.55	-0.259	1.57	-0.108	9.99	-0.367
shizuishan	rapid growth	-8.78	0.015	-3.45	-0.010	-12.53	0.005
kelamayi	rapid growth	-44.69	0.078	-26.08	0.058	-82.44	0.136

Table S2. The PSL of China's RBC in 2000, 2010 and 2020.

city	2000	2010	2020
tangshan	0.438	0.510	0.577
handan	0.375	0.492	0.540
xingtai	0.318	0.504	0.596
zhangjikou	0.385	0.484	0.569
chengde	0.459	0.566	0.612
datong	0.401	0.492	0.606
yangquan	0.457	0.532	0.590
changzhi	0.394	0.477	0.559
jincheng	0.458	0.497	0.573
shuozhou	0.402	0.445	0.539
jinzhong	0.419	0.537	0.542
yuncheng	0.374	0.524	0.562
xinzhou	0.413	0.414	0.529
linfen	0.405	0.467	0.542
lvliang	0.330	0.426	0.503
baotou	0.457	0.551	0.617
hulunbeier	0.493	0.590	0.724
chifeng	0.380	0.478	0.614
eerduosi	0.404	0.536	0.699
wuhai	0.463	0.524	0.631
anshan	0.469	0.501	0.600
fushun	0.476	0.516	0.609
benxi	0.478	0.544	0.661
fuxin	0.400	0.495	0.575
panjin	0.457	0.541	0.612
huludao	0.390	0.487	0.573
jilin	0.447	0.528	0.672
liaoyuan	0.410	0.504	0.617
tonghua	0.430	0.481	0.617
baishan	0.431	0.552	0.681
songyuan	0.389	0.467	0.598
yanbian	0.498	0.571	0.651
jixi	0.428	0.517	0.622
hegang	0.466	0.544	0.678
shuangyashan	0.442	0.519	0.607
daqing	0.495	0.595	0.640
yichun	0.408	0.545	0.743
qitaihe	0.399	0.474	0.572
mudanjiang	0.444	0.515	0.626
heihe	0.419	0.480	0.604
xuzhou	0.366	0.486	0.568

suqian	0.295	0.426	0.550
huzhou	0.379	0.494	0.584
huaibei	0.421	0.470	0.534
bozhou	0.270	0.392	0.497
suzhou	0.265	0.380	0.473
huainan	0.371	0.441	0.515
chuzhou	0.342	0.443	0.571
maanshan	0.394	0.478	0.572
xuancheng	0.347	0.439	0.565
tongling	0.401	0.483	0.600
chizhou	0.358	0.446	0.532
sanming	0.394	0.489	0.558
nanping	0.389	0.445	0.528
longyan	0.372	0.476	0.559
jingdezhen	0.352	0.464	0.544
pingxiang	0.355	0.458	0.566
xinyu	0.364	0.472	0.541
ganzhou	0.328	0.391	0.470
yichun1	0.325	0.405	0.489
zibo	0.455	0.543	0.652
zaozhuang	0.390	0.444	0.546
dongying	0.496	0.571	0.688
jining	0.367	0.489	0.595
taian	0.373	0.494	0.594
linyi	0.355	0.476	0.524
luoyang	0.362	0.437	0.562
pingdingshan	0.342	0.458	0.532
hebi	0.350	0.439	0.541
jiaozuo	0.382	0.459	0.547
puyang	0.409	0.445	0.550
sanmenxia	0.412	0.452	0.582
nanyang	0.318	0.385	0.488
huangshi	0.423	0.471	0.580
ezhou	0.397	0.456	0.533
hengyang	0.352	0.443	0.554
shaoyang	0.320	0.402	0.534
chenzhou	0.383	0.452	0.571
loudi	0.376	0.427	0.547
shaoguan	0.411	0.454	0.562
yunfu	0.304	0.360	0.438
baise	0.332	0.430	0.532
hezhou	0.352	0.387	0.509
hechi	0.343	0.386	0.489

zigong	0.351	0.434	0.586
panzhihua	0.516	0.525	0.632
luzhou	0.337	0.412	0.540
guangyuan	0.337	0.456	0.571
nanhcong	0.300	0.400	0.538
guangan	0.244	0.365	0.544
dazhou	0.330	0.382	0.500
yaan	0.326	0.458	0.658
liupanshui	0.289	0.375	0.556
anshun	0.277	0.325	0.528
qujing	0.316	0.413	0.479
baoshan	0.324	0.369	0.500
zhaotong	0.268	0.325	0.484
puer	0.339	0.406	0.521
tongchuan	0.381	0.496	0.647
baoji	0.377	0.478	0.594
xianyang	0.335	0.437	0.582
weinan	0.294	0.414	0.512
yanan	0.357	0.432	0.575
yulin	0.330	0.456	0.550
jinchang	0.415	0.501	0.658
baiyin	0.344	0.471	0.591
wuwei	0.339	0.452	0.607
zhangye	0.356	0.517	0.614
pingliang	0.338	0.416	0.594
qingyang	0.370	0.420	0.523
shizuishan	0.408	0.584	0.659
kelamay	0.624	0.605	0.691

Table S3. Number of shrinking RBC in China.

shrinkage grade	2000–2020	2000–2010	2010–2020
absolute growth	16	41	14
relative growth	40	37	28
slight shrinkage	29	31	45
moderate shrinkage	17	2	18
significant shrinkage	10	1	7

Table S4. Descriptive statistics of variables.

variables	Mean	standard deviation	minimum	maximum
<i>PSL</i>	0.514	0.15	0.325	0.691
<i>shrink</i>	-0.009	-12.29	-0.601	0.284
<i>pgdp</i>	41086	0.66	7409	188857
<i>ur</i>	54.52	0.28	18.7	95.37
<i>eip</i>	10.55	1.07	0.01	57.41
<i>eaw</i>	50441	0.45	6686	126026
<i>age</i>	11.73	0.30	6.00	21.29
<i>fsr</i>	38.24	0.46	7.6	89.17

Table S5. Distribution of PSL in RBC in China.

	2000	2010	2020
average	0.383	0.469	0.575
maximum	0.624	0.605	0.743
minimum	0.244	0.325	0.438
25% quantiles	0.341	0.434	0.538
50% quantiles	0.380	0.470	0.571
75% quantiles	0.416	0.504	0.608
variable coefficient	0.159	0.123	0.099