

**MANUFACTURING PRODUCTION, AUSTRALIA  
JULY 1994, PRELIMINARY**

**NOTES**

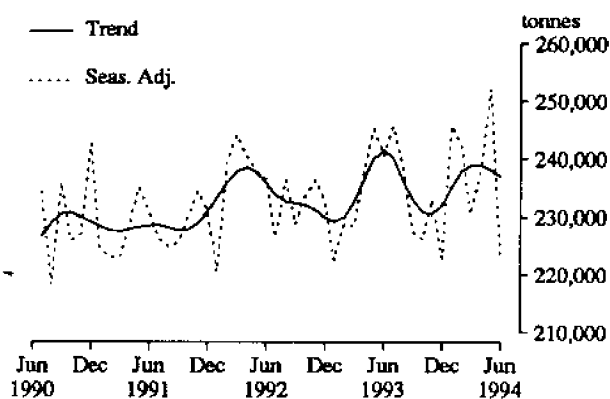
This publication presents preliminary monthly estimates for selected major indicators of manufacturing production for Australia. A number of changes have been introduced in this issue:

1. Fifteen new items have been included - seven for which monthly estimates are available and eight which are published on a quarterly basis. Data for some of these new items are not yet available for the latest month (July) or quarter (June quarter). For these series, data are published for the latest period available.
  2. Two items (television sets and lawn mowers) have been deleted.
  3. Sensitivity analysis graphs, which illustrate the possible impact of future observations on the trend estimates for the latest periods, have been included on the right hand side. For an explanation of sensitivity analysis see page 15.
  4. Seasonally adjusted and trend estimates have been revised as a result of the annual re-analysis of seasonal factors.
- The inclusion of new items are aimed at making the data contained in this publication more representative of the manufacturing industry. It is expected that a further nineteen items will be included in the January 1995 edition.

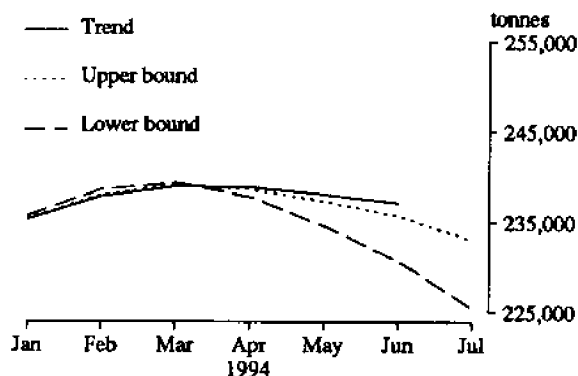
**IAN CASTLES**  
Australian Statistician

**PRODUCTION STATISTICS, AUSTRALIA : LONGER TERM TRENDS AND SHORT TERM SENSITIVITY ANALYSIS**

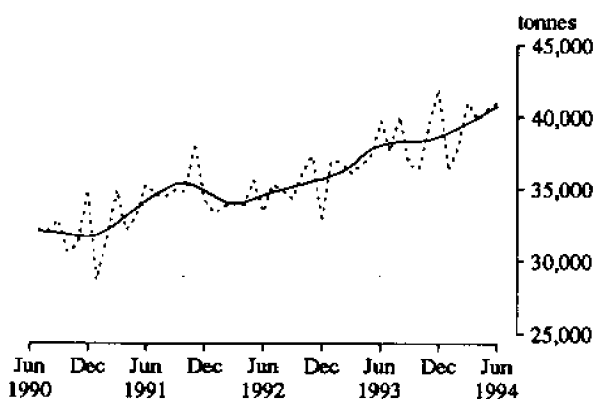
**M1. RED MEAT(a)**



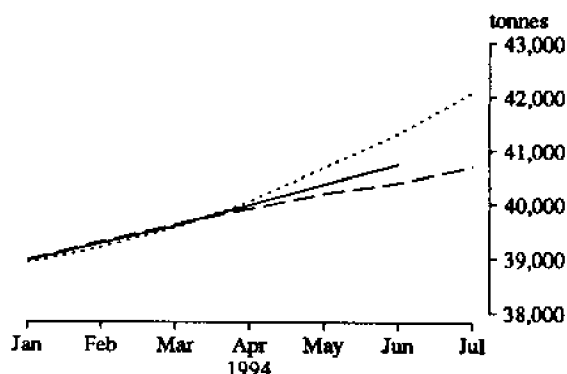
**M1. RED MEAT  
(Average movement 4%)**



**M2. CHICKEN MEAT(b)**



**M2. CHICKEN MEAT  
(Average movement 4%)**

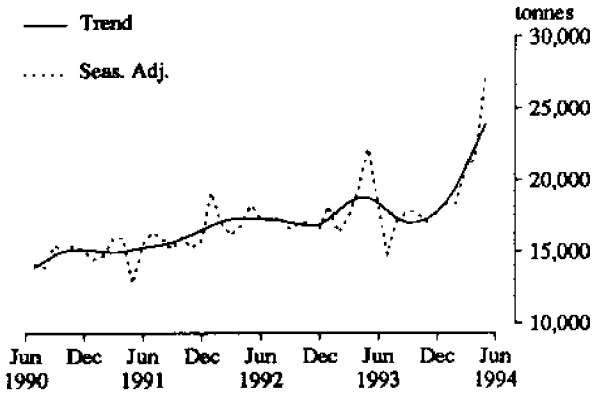


For footnotes see end of tables.

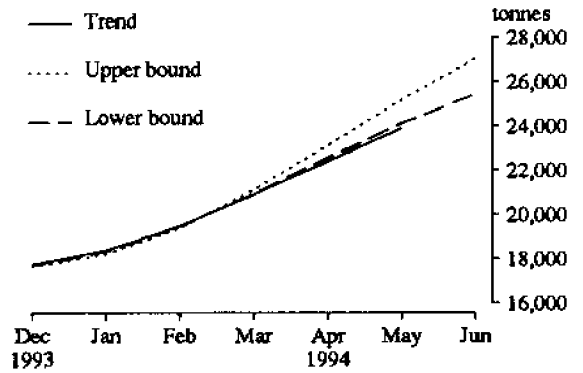
**INQUIRIES**

- . for further information about statistics in this publication and the availability of related unpublished statistics, contact Rod Smith on Melbourne (03) 615 7635 or any ABS office.
- . for information about other ABS statistics and services please refer to the back page of this publication.

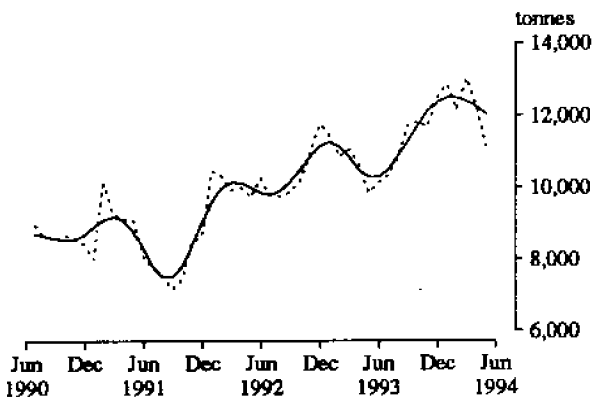
**M3. CHEESE(c)**



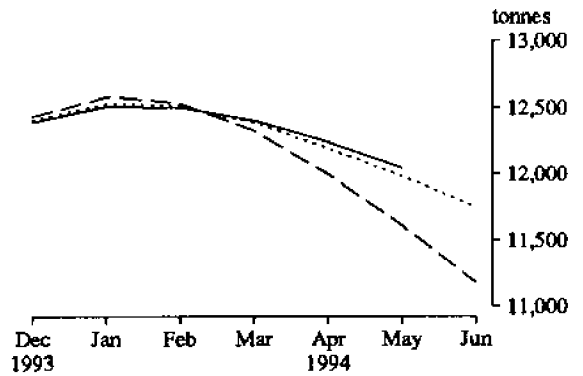
**M3. CHEESE**  
(Average movement 7%)



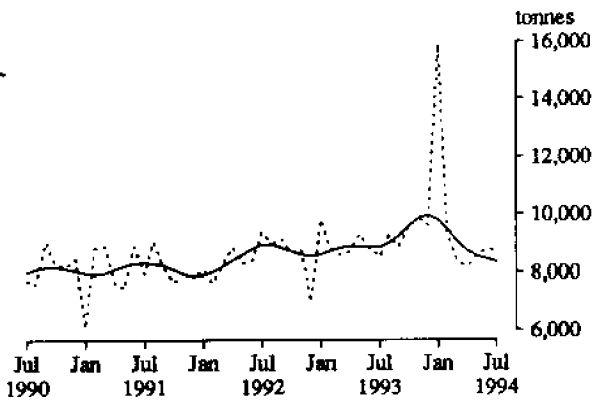
**M4. BUTTER(c)**



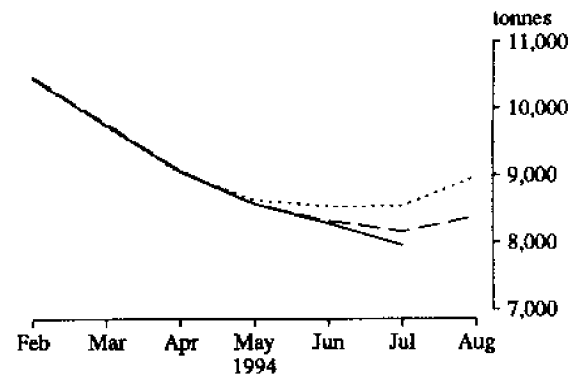
**M4. BUTTER**  
(Average movement 6%)



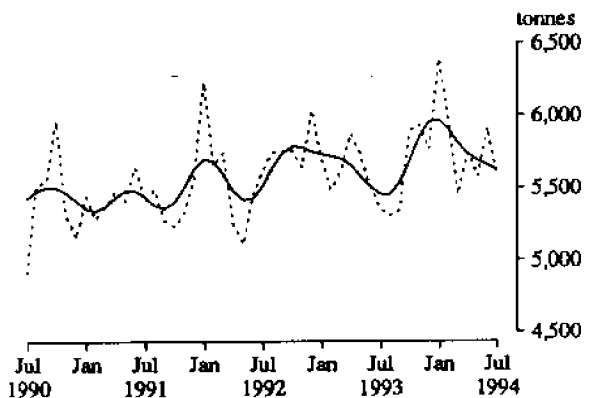
**M5. CHOCOLATE BASE CONFECTIONERY**



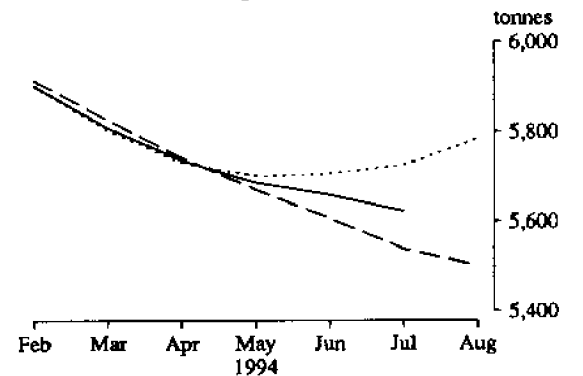
**M5. CHOCOLATE BASE CONFECTIONERY**  
(Average movement 8%)



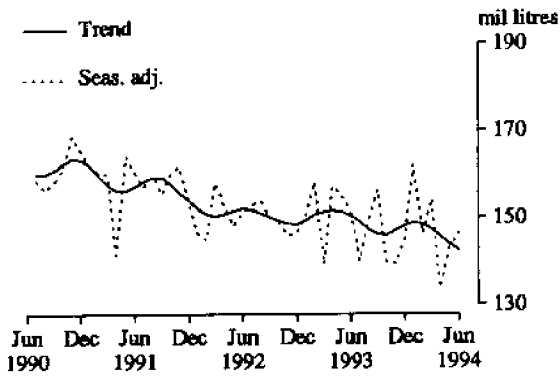
**M6. OTHER CONFECTIONERY**



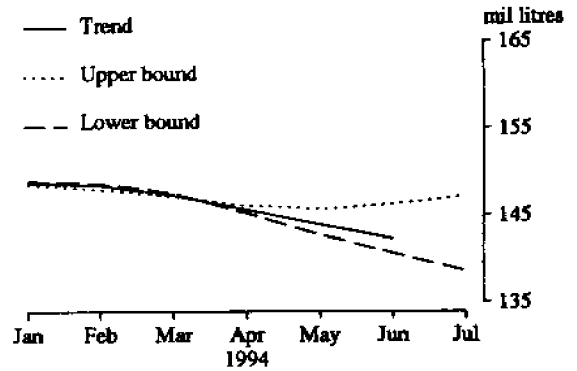
**M6. OTHER CONFECTIONERY**  
(Average movement 6%)



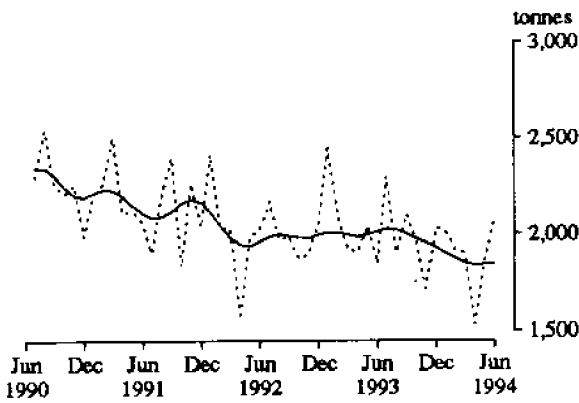
**M7. BEER(d)**



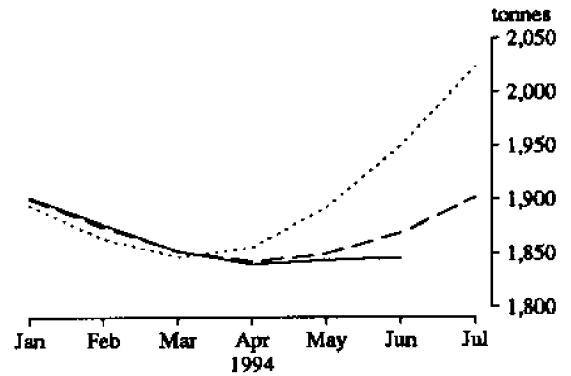
**M7. BEER  
(Average movement 7%)**



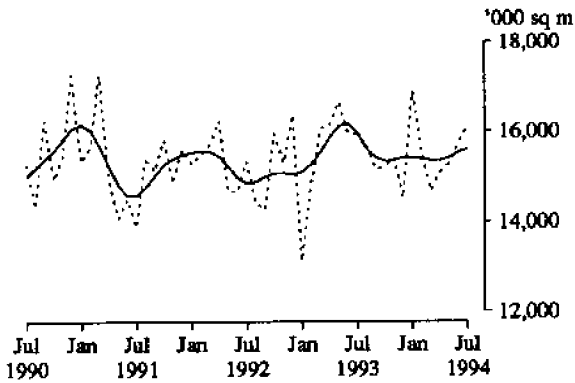
**M8. TOBACCO AND CIGARETTES(e)**



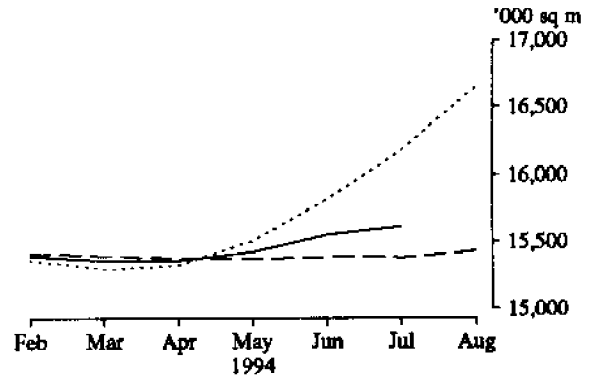
**M8. TOBACCO AND CIGARETTES  
(Average movement 7%)**



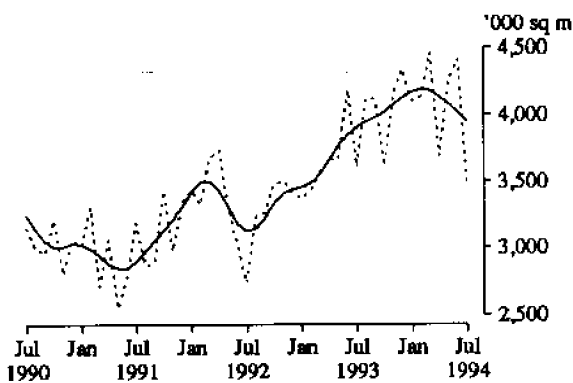
**M9. MAN-MADE FIBRE WOVEN FABRIC**



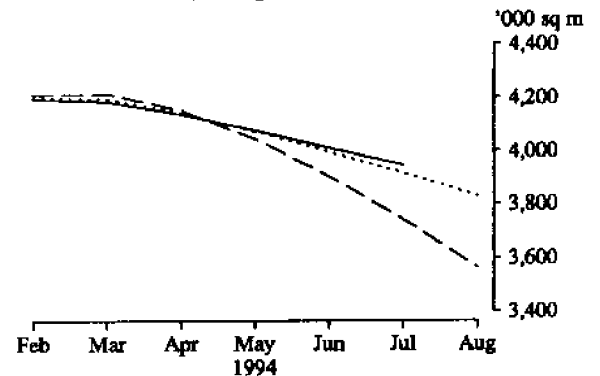
**M9. MAN-MADE FIBRE WOVEN FABRIC  
(Average movement 9%)**



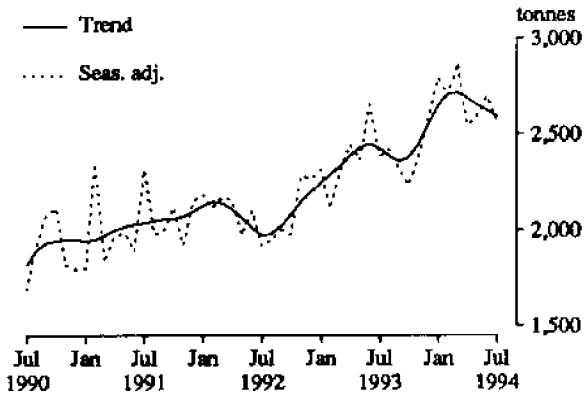
**M10. COTTON WOVEN FABRIC(f)**



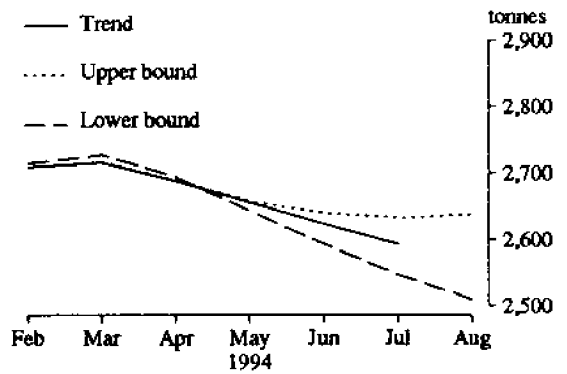
**M10. COTTON WOVEN FABRIC  
(Average movement 9%)**



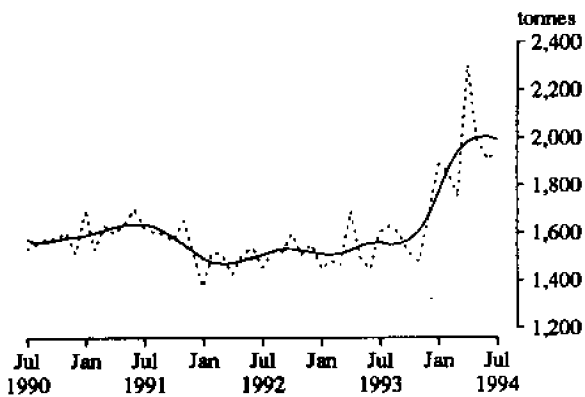
**M11. COTTON YARN(f)**



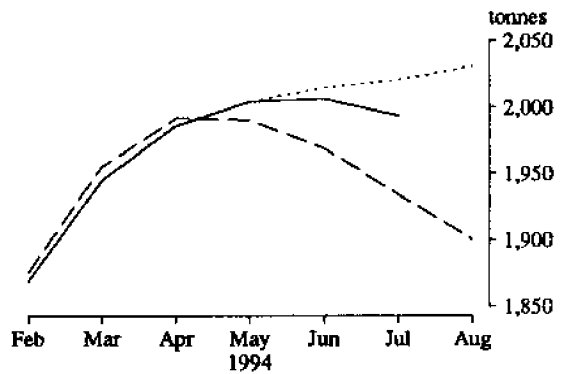
**M11. COTTON YARN  
(Average movement 6%)**



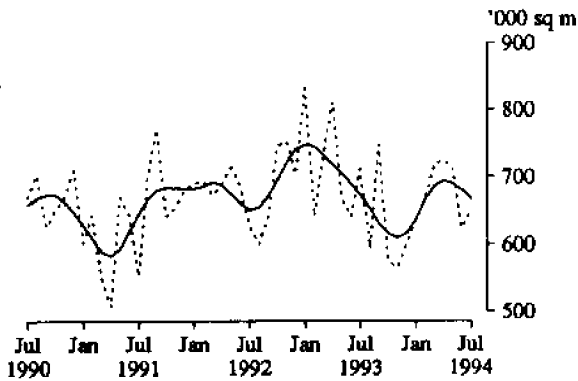
**M12. WOOL YARN(f)**



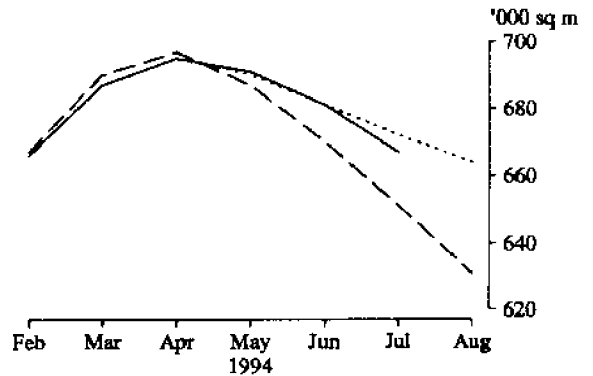
**M12. WOOL YARN  
(Average movement 8%)**



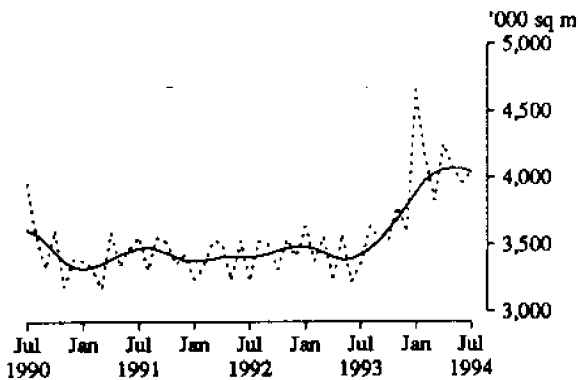
**M13. WOOL WOVEN FABRIC(f)**



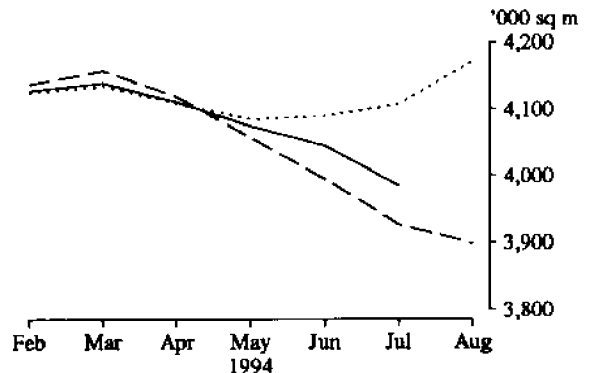
**M13. WOOL WOVEN FABRIC  
(Average movement 6%)**



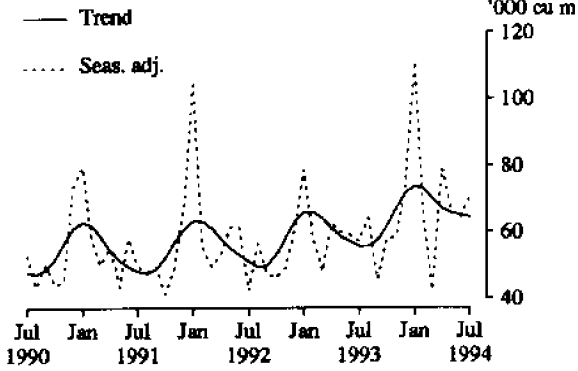
**M14. TEXTILE FLOOR COVERINGS**



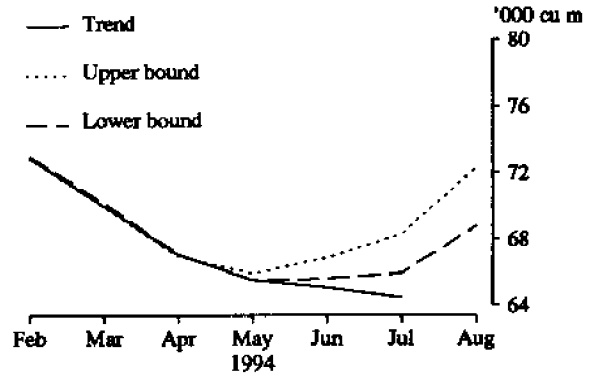
**M14. TEXTILE FLOOR COVERINGS  
(Average movement 8%)**



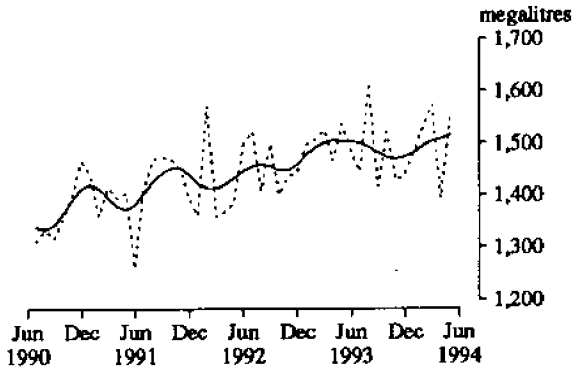
**M15. UNLAMINATED PARTICLE BOARD(g)**



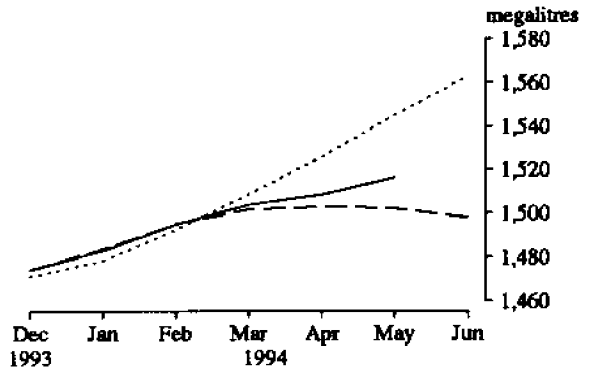
**M15. UNLAMINATED PARTICLE BOARD  
(Average movement 6%)**



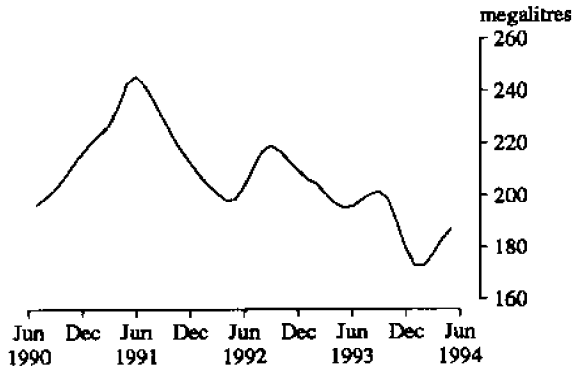
**M16. AUTOMOTIVE GASOLINE(h)**



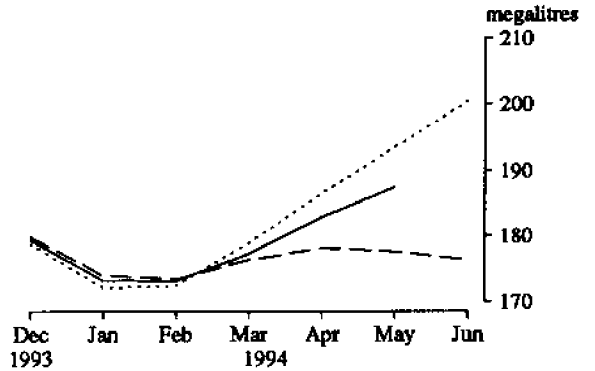
**M16. AUTOMOTIVE GASOLINE  
(Average movement 5%)**



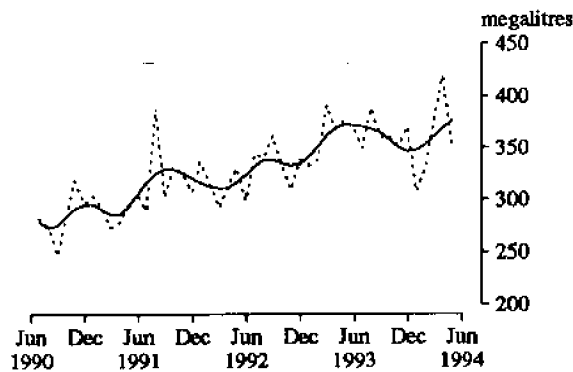
**M17. FUEL OIL**



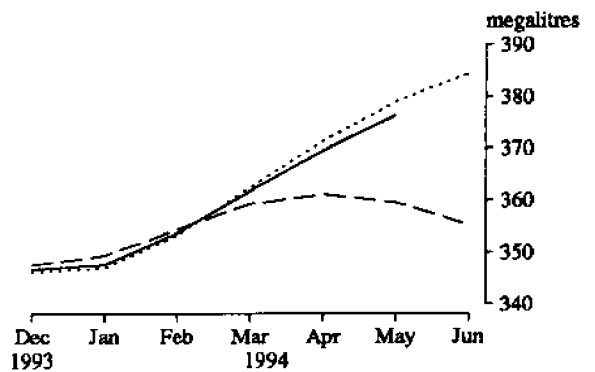
**M17. FUEL OIL  
(Average movement 16%)**



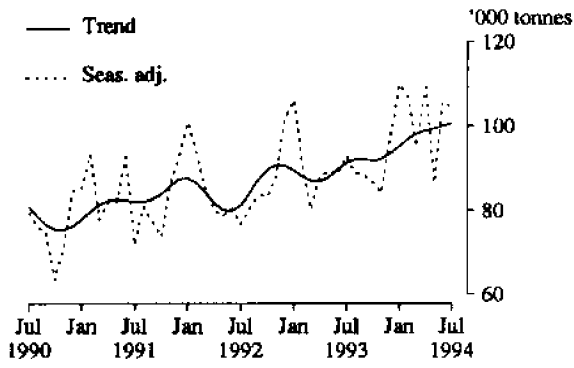
**M18. AVIATION TURBINE FUEL(h)**



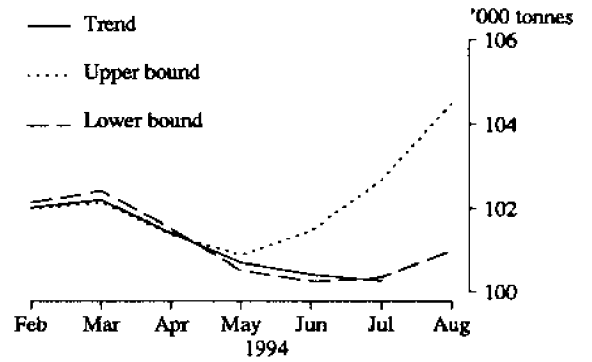
**M18. AVIATION TURBINE FUEL  
(Average movement 10%)**



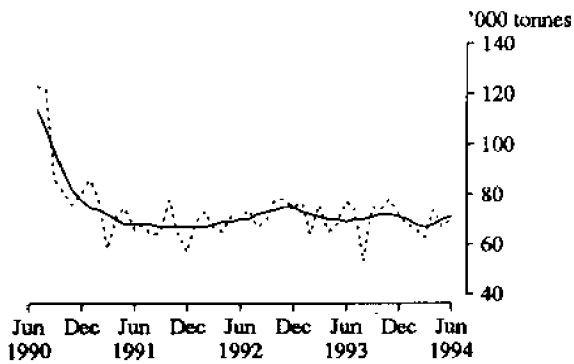
**M19. PLASTICS IN PRIMARY FORMS(I)**



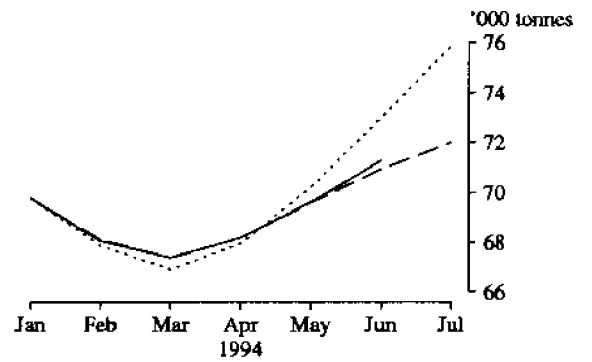
**M19. PLASTICS IN PRIMARY FORMS  
(Average movement 4%)**



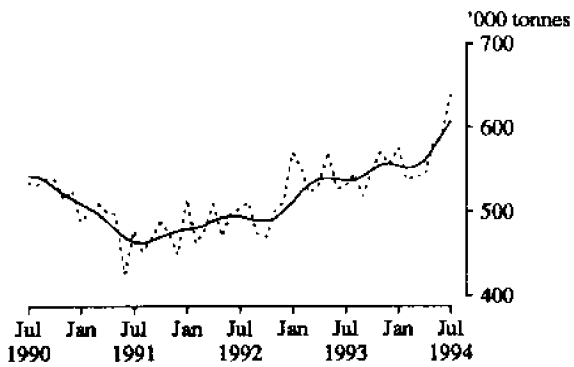
**M20. SULPHURIC ACID; OLEUM**



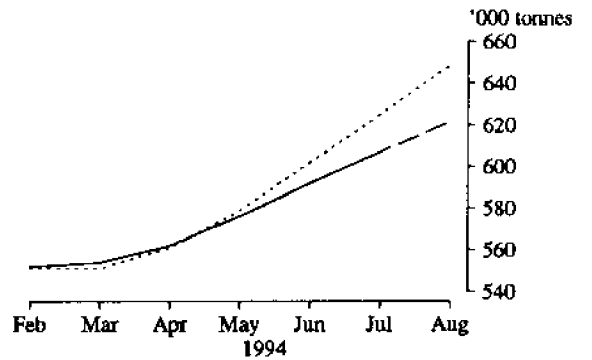
**M20. SULPHURIC ACID; OLEUM  
(Average movement 9%)**



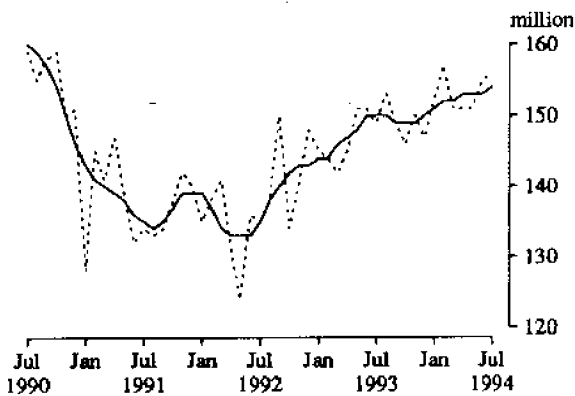
**M21. PORTLAND CEMENT**



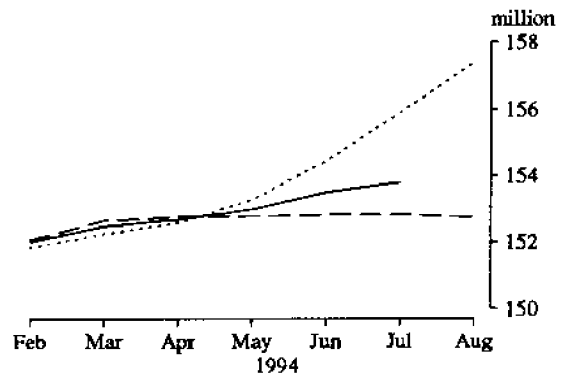
**M21. PORTLAND CEMENT  
(Average movement 5%)**



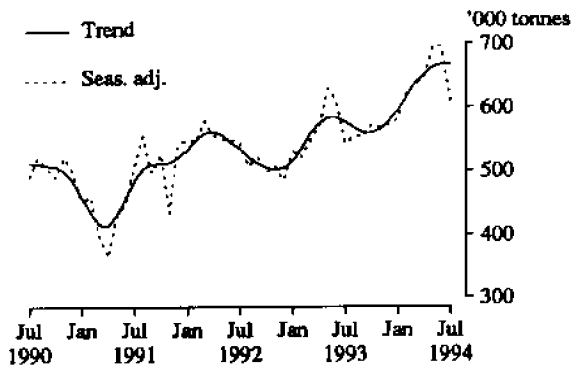
**M22. CLAY BRICKS**



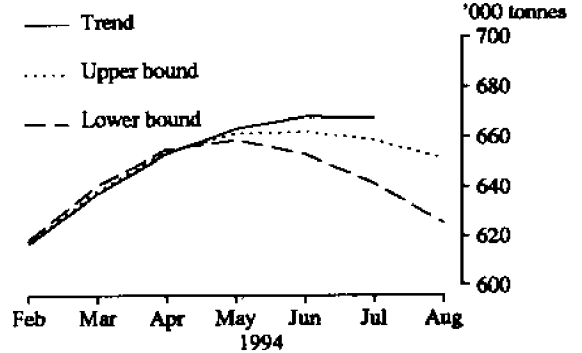
**M22. CLAY BRICKS  
(Average movement 4%)**



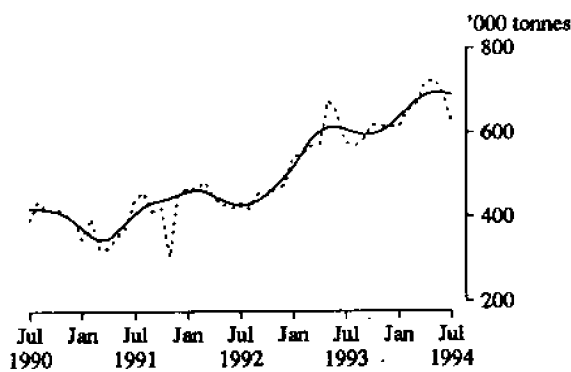
**M23. BASIC IRON, SPIEGELEISEN AND SPONGE IRON**



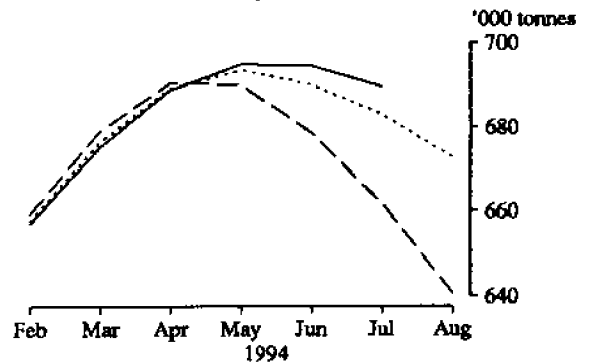
**M23. BASIC IRON, SPIEGELEISEN AND SPONGE IRON (Average movement 5%)**



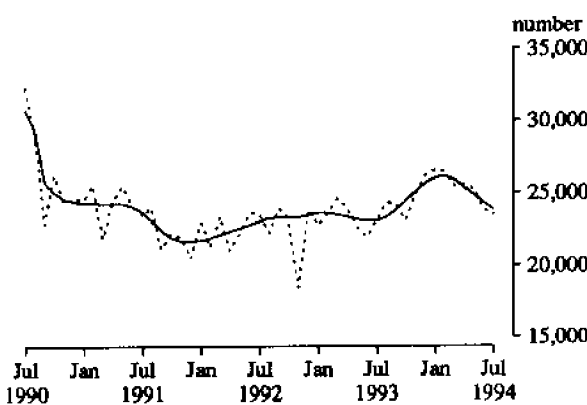
**M24. BLOOMS AND SLABS (I)**



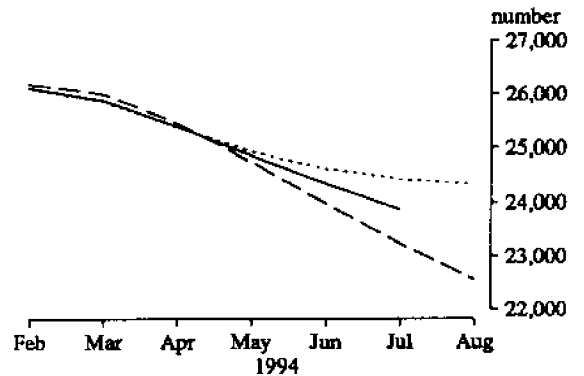
**M24. BLOOMS AND SLABS (Average movement 6%)**



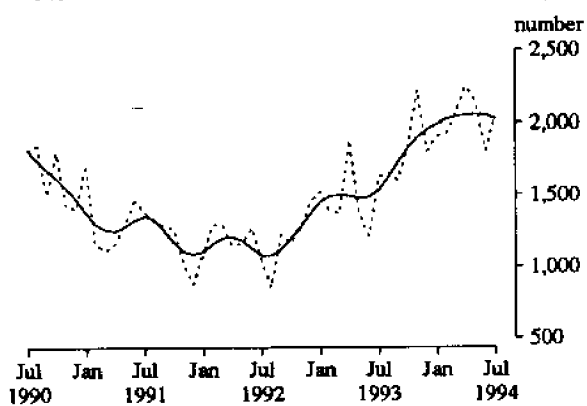
**M25. CARS AND STATION WAGONS**



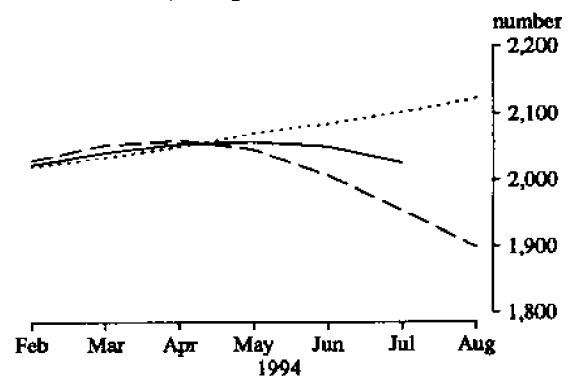
**M25. CARS AND STATION WAGONS (Average movement 9%)**

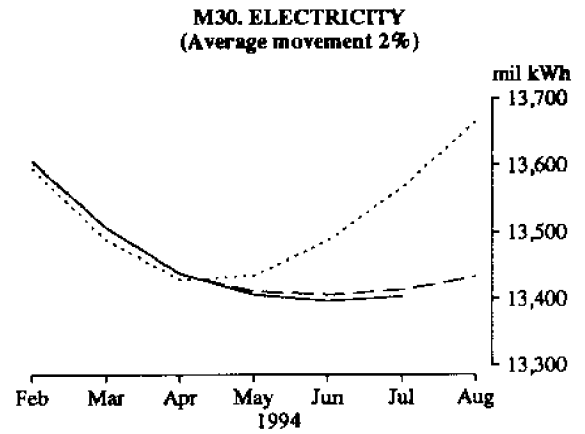
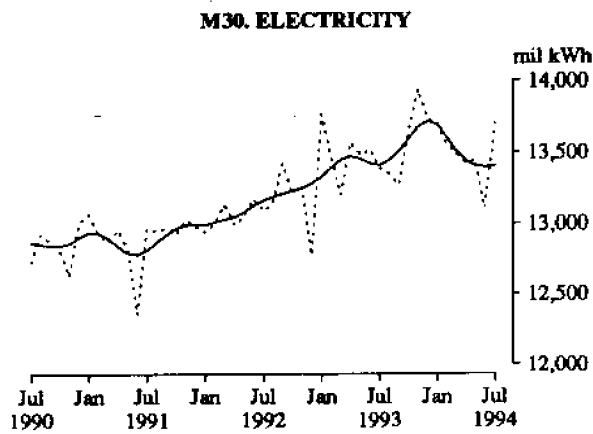
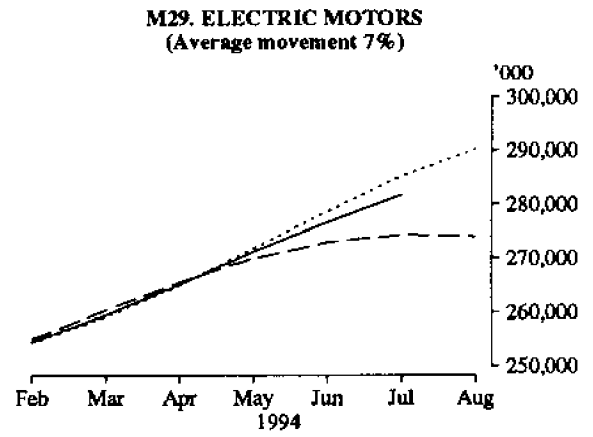
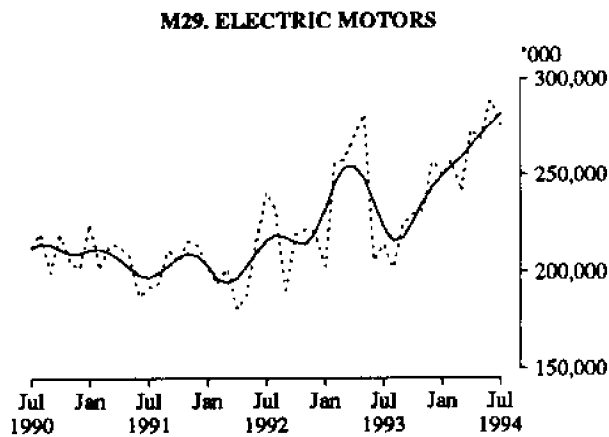
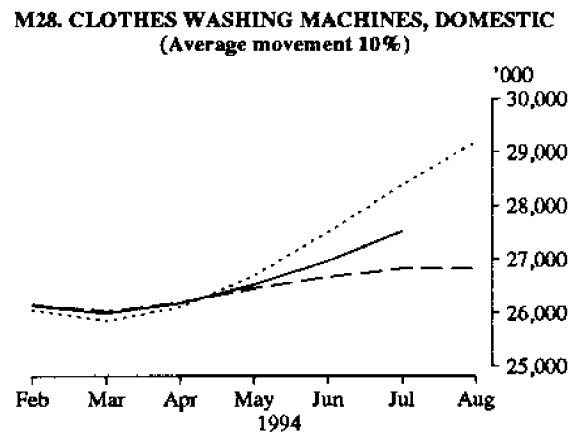
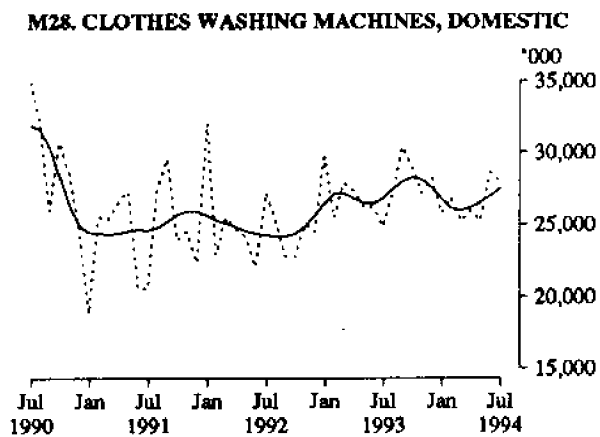
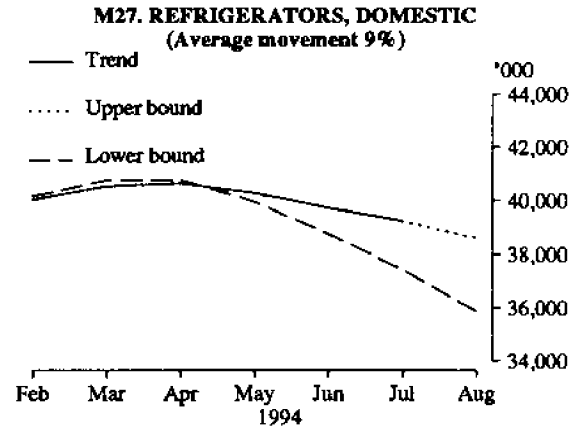
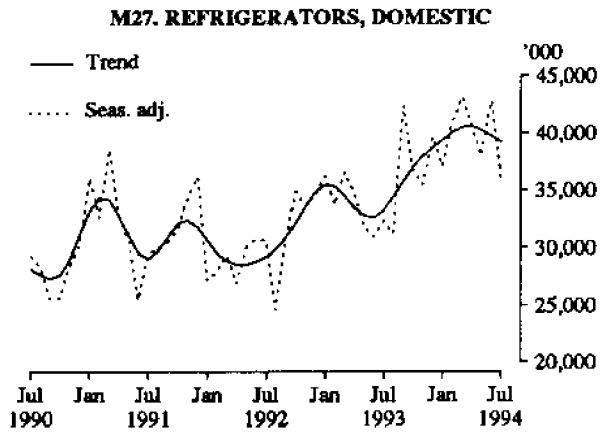


**M26. VEHICLES FOR GOODS AND MATERIALS(k)**

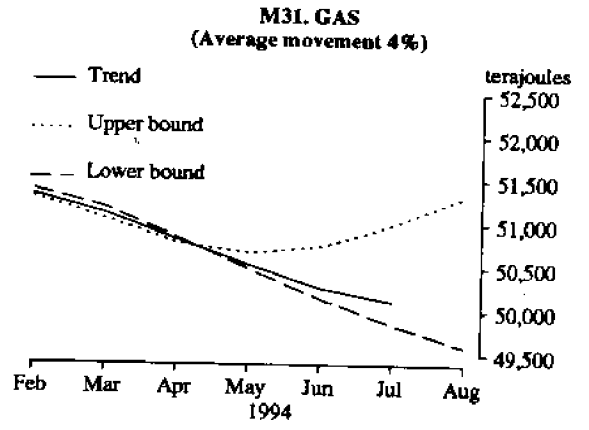
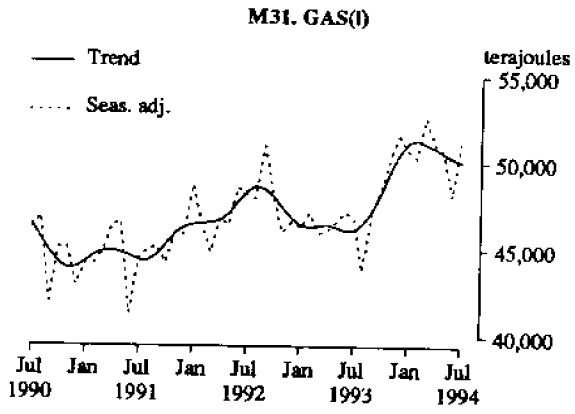


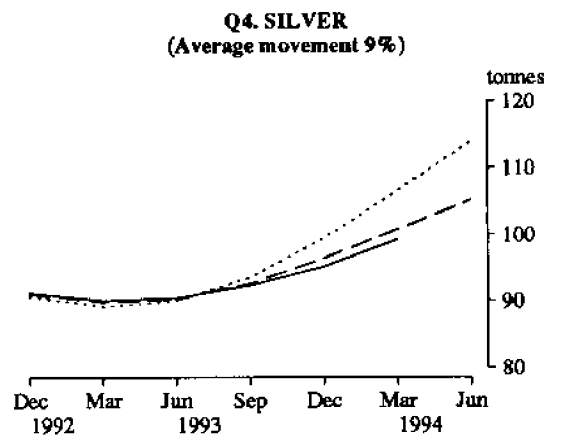
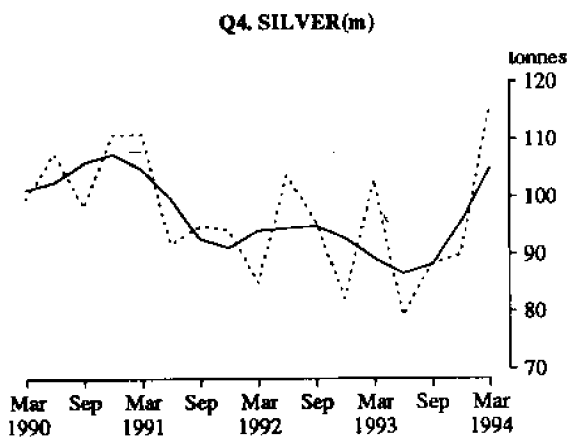
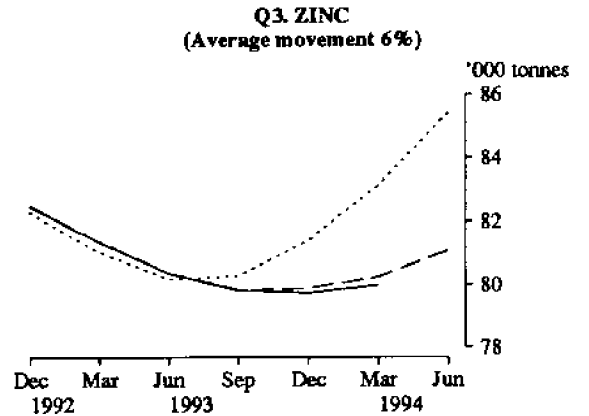
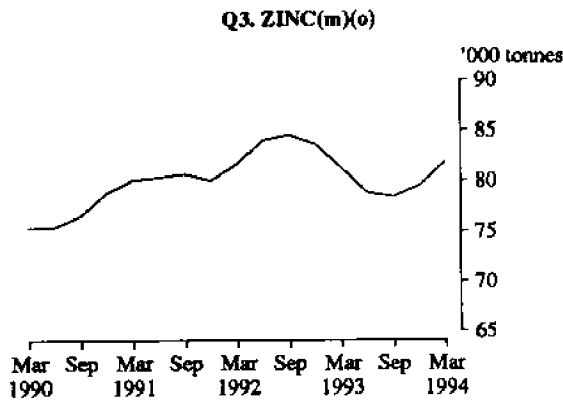
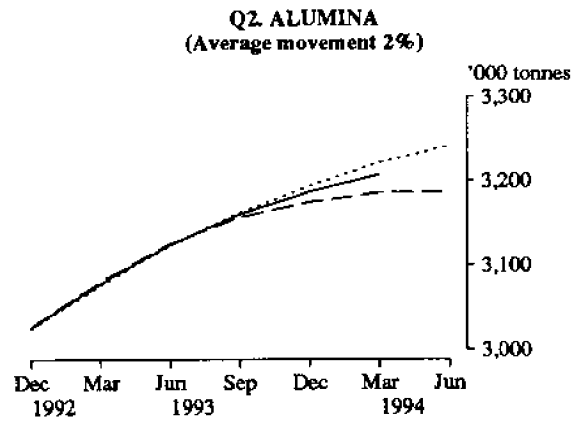
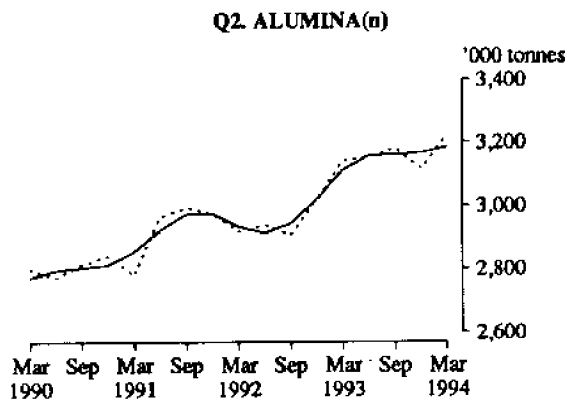
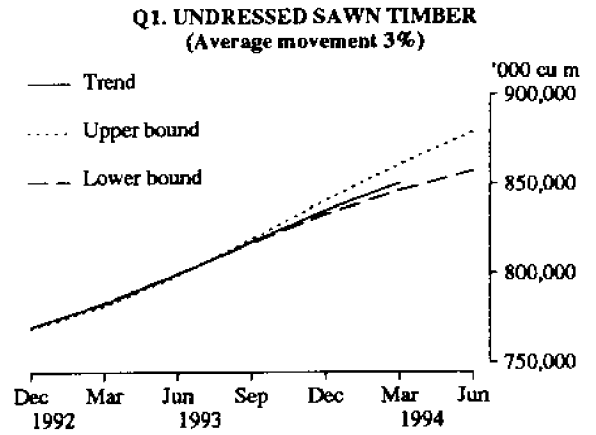
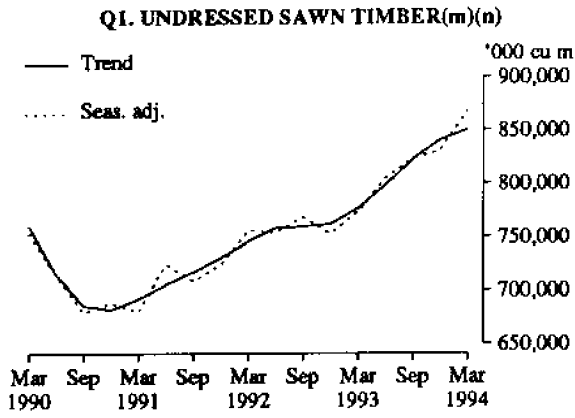
**M26. VEHICLES FOR GOODS AND MATERIALS (Average movement 13%)**



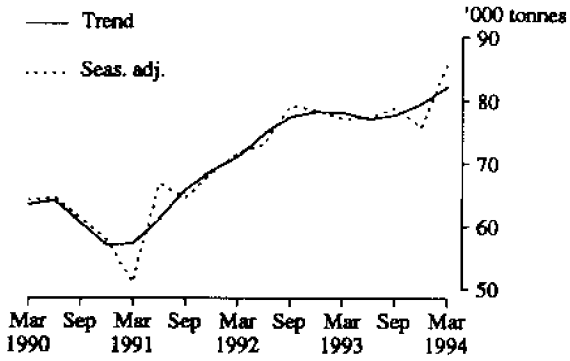




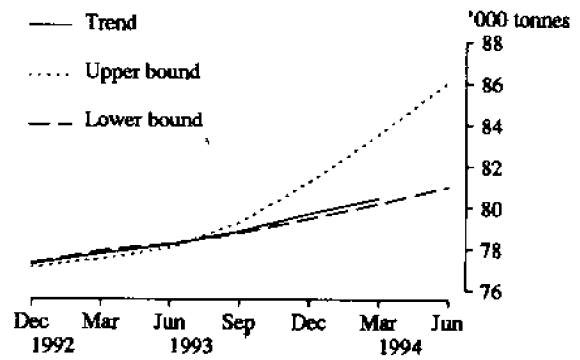




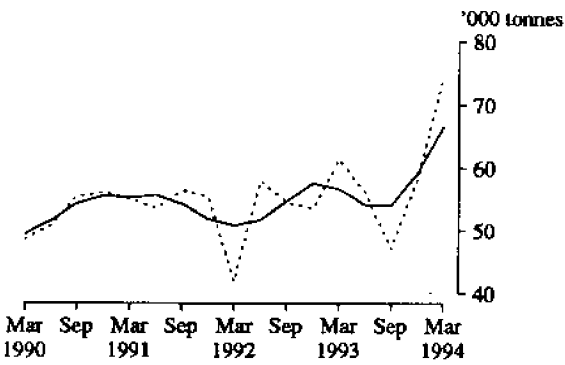
**Q5. COPPER**



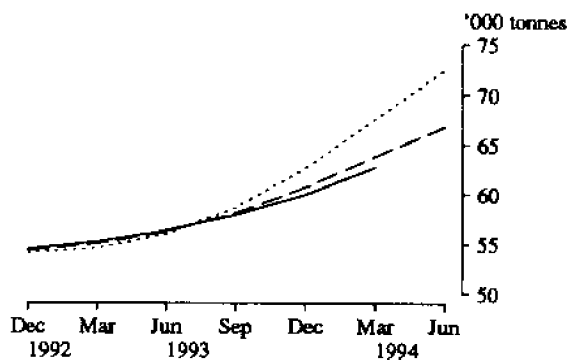
**Q5. COPPER**  
(Average movement 7%)



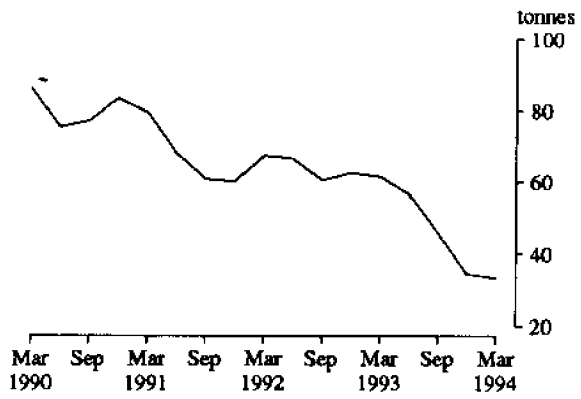
**Q6. LEAD(m)(p)**



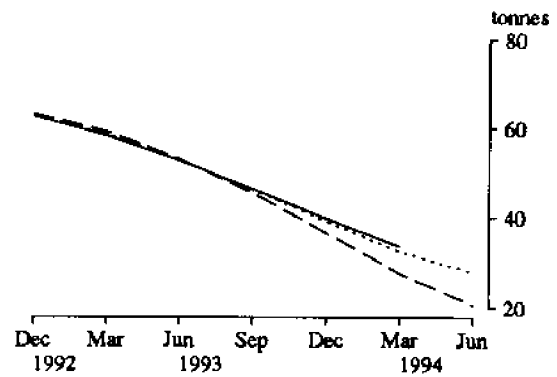
**Q6. LEAD**  
(Average movement 9%)



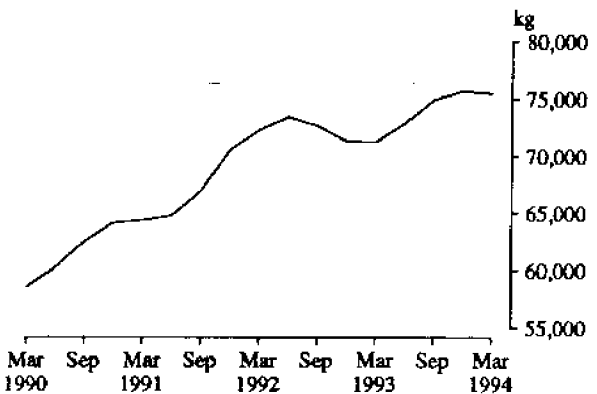
**Q7. TIN(m)(o)**



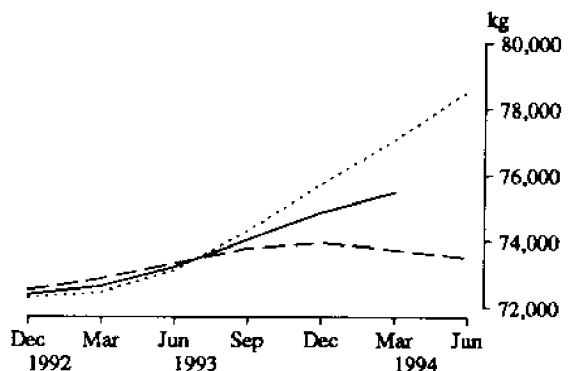
**Q7. TIN**  
(Average movement 45%)



**Q8. GOLD(m)(q)**



**Q8. GOLD**  
(Average movement 8%)



## PRODUCTION STATISTICS, AUSTRALIA, JULY 1994, PRELIMINARY

No. Item	Series	Unit	1993									Percentage changes between latest month shown and-	
			1994									prev. month	same month prev. year
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July		
M1. Red meat(a)	Orig.	tonnes	252,680	220,724	200,111	233,570	252,414	226,398	254,836	223,841	n.y.a.	-12.2	-7.5
	S. adj.	"	233,113	222,939	245,903	242,443	230,464	238,612	252,291	223,473	n.y.a.	-11.4	-7.1
	Trend r	"	230,525	232,063	235,322	237,877	238,973	238,917	238,123	237,153	n.y.a.	0.4	-1.8
M2. Chicken meat(b)	Orig.	"	37,073	43,143	37,617	36,613	41,323	41,301	39,063	42,313	n.y.a.	8.3	5.0
	S. adj.	"	39,511	41,997	36,290	37,996	41,005	39,836	40,578	41,048	n.y.a.	1.2	3.3
	Trend r	"	38,443	38,646	38,943	39,269	39,597	39,980	40,372	40,734	n.y.a.	0.9	7.0
M3. Cheese(c)	Orig.	"	24,760	24,396	21,641	18,175	19,033	17,178	15,423	n.y.a.	n.y.a.	-10.2	22.8
	S. adj.	"	17,053	17,883	18,347	18,325	20,728	21,521	27,143	n.y.a.	n.y.a.	27.4	22.2
	Trend r	"	17,307	17,744	18,411	19,492	20,893	22,408	23,896	n.y.a.	n.y.a.	6.6	27.5
M4. Butter(c)	Orig.	"	18,724	17,925	14,977	11,759	12,165	9,296	6,729	n.y.a.	n.y.a.	-27.6	24.6
	S. adj.	"	11,678	12,526	12,888	12,146	13,049	12,304	11,178	n.y.a.	n.y.a.	-9.2	13.6
	Trend r	"	12,130	12,389	12,506	12,500	12,404	12,243	12,044	n.y.a.	n.y.a.	-1.6	17.0
M5. Chocolate base confectionery	Orig.	"	10,504	9,547	8,390	9,405	9,559	7,419	8,641	9,202	8,875	-3.6	1.9
	S. adj. r	"	9,885	9,602	15,892	9,362	8,408	8,203	8,569	8,784	8,747	-0.4	2.6
	Trend r	"	9,871	9,967	9,814	9,477	9,083	8,755	8,553	8,455	8,372	-1.0	-5.8
M6. Other confectionery	Orig.	"	6,990	5,548	3,342	5,583	5,800	4,680	5,549	6,284	5,944	-5.4	3.7
	S. adj. r	"	5,934	5,766	6,388	5,981	5,454	5,741	5,574	5,915	5,591	-5.5	4.6
	Trend r	"	5,859	5,957	5,967	5,903	5,810	5,736	5,687	5,659	5,622	-0.7	3.1
M7. Beer(d)	Orig.	mil litres	177	184	151	134	164	126	133	125	n.p.	-6.0	-3.1
	S. adj. r	"	139	145	162	146	154	134	143	147	n.p.	2.8	-2.6
	Trend r	"	147	148	149	148	147	146	144	142	n.p.	-1.4	-5.3
M8. Tobacco and cigarettes(e)	Orig.	tonnes	1,988	1,877	1,001	2,070	2,240	1,382	2,164	2,171	n.y.a.	0.3	12.8
	S. adj. r	"	1,718	2,035	2,014	1,919	1,900	1,531	1,854	2,068	n.y.a.	11.5	11.8
	Trend r	"	1,957	1,931	1,903	1,877	1,853	1,840	1,844	1,846	n.y.a.	0.1	-8.4
M9. Man-made fibre woven fabric	Orig.	'000 sq m	16,233	13,574	9,819	16,025	16,021	14,409	15,914	r 17,291	16,889	-2.3	-1.8
	S. adj. r	"	15,423	14,538	16,880	15,521	14,695	15,100	15,310	15,767	16,096	2.1	1.1
	Trend r	"	15,372	15,421	15,424	15,396	15,359	15,358	15,423	15,550	15,613	0.4	-2.2
M10. Cotton Woven fabric(f)	Orig.	"	4,020	3,740	1,619	4,180	4,797	3,862	4,414	r 4,874	4,152	-14.8	-8.0
	S. adj. r	"	4,153	4,339	4,105	4,138	4,465	3,688	4,265	4,413	3,493	-20.8	-3.3
	Trend r	"	4,081	4,130	4,175	4,194	4,185	4,137	4,079	4,011	3,948	-1.6	0.9
M11. Cotton yarn(f)	Orig.	tonnes	2,357	2,306	1,583	2,550	3,081	2,422	2,612	3,201	2,736	-14.5	4.3
	S. adj. r	"	2,390	2,588	2,793	2,698	2,869	2,547	2,594	2,699	2,568	-4.9	7.6
	Trend r	"	2,454	2,556	2,653	2,708	2,715	2,688	2,655	2,624	2,594	-1.2	6.8
M12. Wool yarn(f)	Orig.	"	1,694	1,421	1,113	1,830	1,894	1,954	2,141	r 2,040	2,009	-1.5	18.6
	S. adj. r	"	1,482	1,676	1,889	1,856	1,750	2,309	1,984	1,908	1,946	2.0	21.0
	Trend r	"	1,610	1,676	1,770	1,869	1,945	1,986	2,004	2,006	1,994	-0.6	27.9
M13. Wool woven fabric(f)	Orig.	'000 sq m	652	544	369	725	832	636	735	r 629	653	3.8	-10.7
	S. adj. r	"	566	601	637	665	719	725	716	624	651	4.3	-8.7
	Trend r	"	610	617	638	666	687	695	691	681	667	-1.9	-0.8
M14. Textile floor coverings	Orig.	"	4,361	3,429	2,513	4,059	4,064	3,822	4,366	r 4,047	4,002	-1.1	15.8
	S. adj. r	"	3,782	3,589	4,660	4,167	3,836	4,255	4,075	3,964	4,049	2.2	21.0
	Trend r	"	3,697	3,796	3,893	3,981	4,039	4,066	4,073	4,073	4,048	-0.6	18.1
M15. Unlaminated particle board(g)	Orig.	'000 cu m	69	55	32	57	67	64	70	73	66	-9.6	8.2
	S. adj.	"	58	73	111	64	43	79	66	64	70	9.4	22.6
	Trend r	"	67	72	74	73	70	67	66	65	64	-1.0	15.4
M16. Automotive gasoline(h)	Orig.	megalitres	1,325	1,480	1,610	1,425	1,572	1,358	1,591	n.y.a.	n.y.a.	17.2	1.1
	S. adj.	"	1,426	1,440	1,484	1,534	1,574	1,393	1,553	n.y.a.	n.y.a.	11.5	1.1
	Trend r	"	1,471	1,474	1,483	1,495	1,504	1,509	1,517	n.y.a.	n.y.a.	0.5	0.8

For footnotes see end of tables

## PRODUCTION STATISTICS, AUSTRALIA, JULY 1994, PRELIMINARY

No. Item	Series	Unit	1993		1994							Percentage changes between latest month shown and-	
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	prev. month	same month prev. year
M17. Fuel oil(h)	Orig.	megalitres	174	167	195	152	175	192	175	n.y.a.	n.y.a.	-8.9	8.7
	S. adj.	"	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Trend r	"	190	179	173	173	177	183	187	n.y.a.	n.y.a.	2.2	-4.6
M18. Aviation turbine fuel(h)	Orig.	"	375	383	355	329	362	348	353	n.y.a.	n.y.a.	1.4	-1.9
	S. adj.	"	351	370	308	331	377	419	349	n.y.a.	n.y.a.	-16.7	-7.4
	Trend r	"	351	347	348	354	362	370	376	n.y.a.	n.y.a.	1.6	0.8
M19. Plastics in primary forms(i)	Orig.	'000 tonnes	95.0	84.0	82.0	95.0	105.0	100.0	87.0	100.0	105.0	5.0	10.5
	S. adj.	"	84.2	97.3	109.8	106.8	95.1	109.3	86.6	105.9	104.1	-1.7	11.9
	Trend r	"	92.3	93.6	95.2	96.9	98.2	99.0	99.5	100.2	100.7	0.5	10.2
M20. Sulphuric acid; oleum	Orig.	"	76	83	82	71	72	75	71	69	n.p.	-2.1	-8.0
	S. adj. r	"	78	72	68	66	63	74	67	70	n.p.	6.1	-8.1
	Trend r	"	72	71	70	68	67	68	70	71	n.p.	1.4	-1.4
M21. Portland cement	Orig.	"	644	539	407	497	564	515	625	616	659	7.0	18.1
	S. adj. r	"	572	557	577	538	544	542	581	590	641	8.6	20.8
	Trend r	"	556	558	555	552	554	562	576	592	607	2.6	12.9
M22. Clay bricks	Orig.	million	161	135	98	150	173	144	167	161	156	-3.1	1.3
	S. adj. r	"	150	147	152	157	151	151	151	155	156	0.8	4.5
	Trend r	"	149	150	151	152	152	153	153	153	154	0.2	2.2
M23. Basic iron, spiegeleisen and sponge iron	Orig.	'000 tonnes	600	591	582	556	607	628	652	646	643	-0.5	12.4
	S. adj. r	"	568	573	582	624	634	649	696	696	609	-12.4	12.3
	Trend r	"	566	578	596	617	637	653	663	668	668	-0.1	15.7
M24. Blooms and Slabs(j)	Orig.	"	638	638	613	590	647	667	681	658	661	0.4	9.5
	S. adj. r	"	617	616	614	654	666	718	727	698	632	-9.5	9.5
	Trend r	"	604	619	637	657	675	689	695	695	690	-0.7	13.3
M25. Cars and station wagons	Orig.	number	27,982	21,120	11,978	26,012	29,548	21,375	28,792	26,159	25,221	-3.6	-3.0
	S. adj. r	"	24,947	26,224	26,577	26,396	25,458	25,630	25,235	23,846	23,510	-1.4	1.8
	Trend r	"	25,120	25,656	26,034	26,132	25,888	25,397	24,861	24,342	23,877	-1.9	3.2
M26. Vehicles for goods and materials(k)	Orig.	"	2,172	1,549	803	1,857	2,358	1,949	2,401	2,074	2,119	2.2	23.2
	S. adj. r	"	2,227	1,800	1,912	1,927	2,070	2,251	2,132	1,800	2,049	13.8	25.7
	Trend r	"	1,902	1,951	1,991	2,023	2,042	2,054	2,057	2,050	2,026	-1.2	32.2
M27. Refrigerators, domestic	Orig.	'000	41.6	37.2	35.8	41.6	49.4	34.4	38.9	38.1	31.2	-18.2	4.6
	S. adj. r	"	35.5	39.7	37.1	40.6	43.2	40.7	38.0	42.9	36.1	-15.8	11.7
	Trend r	"	38.0	38.7	39.4	40.0	40.5	40.6	40.3	39.8	39.3	-1.3	18.0
M28. Clothes washing machines, domestic	Orig.	"	29.9	25.3	11.8	26.4	29.4	24.0	25.2	29.4	30.2	2.6	8.6
	S. adj. r	"	27.2	28.2	25.8	26.8	25.2	26.0	25.3	28.6	27.9	-2.5	12.4
	Trend r	"	28.1	27.5	26.7	26.1	26.0	26.2	26.5	27.0	27.5	2.0	2.7
M29. Electric motors	Orig.	"	254	238	161	256	279	255	265	289	271	-6.0	24.7
	S. adj. r	"	231	257	249	257	241	273	269	289	276	-4.5	28.8
	Trend r	"	236	244	250	254	259	265	271	277	282	1.8	26.3
M30. Electricity	Orig.	mil k Wh	13,302	13,456	13,171	12,517	13,489	12,641	13,727	13,859	14,881	7.4	2.0
	S. adj. r	"	13,940	13,723	13,697	13,559	13,487	13,419	13,453	13,105	13,703	4.6	2.4
	Trend r	"	13,674	13,715	13,688	13,605	13,507	13,439	13,406	13,397	13,403	0.0	0.0
M31. Gas(l)	Orig.	terrajoules	46,251	43,736	39,975	40,478	47,002	46,223	55,116	57,719	62,375	8.1	9.8
	S. adj. r	"	50,115	51,538	50,670	50,266	52,673	50,991	50,669	48,074	51,310	6.7	9.5
	Trend r	"	49,420	50,502	51,188	51,330	51,117	50,825	50,534	50,268	50,108	-0.3	8.7

For footnotes see end of tables

## PRODUCTION STATISTICS, AUSTRALIA, MARCH 1994, PRELIMINARY

No. Item	Series	Unit	1992				1993				1994		Percentage changes between latest quarter shown and-	
			Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	prev. quarter	same quarter prev. year	
Q1. Undressed sawn Timber(m)(n)	Orig.	'000 cu m	693	779	795	766	709	831	852	844	795	-5.8	12.1	
	S. adj.	"	756	754	769	753	774	805	823	830	868	4.5	12.1	
	Trend r	"	746	759	760	763	777	798	822	841	850	1.2	9.4	
Q2. Alumina(m)	Orig.	'000 tonnes	2,874	2,907	2,948	3,054	3,094	3,125	3,225	3,154	3,172	0.6	2.5	
	S. adj.	"	2,920	2,938	2,907	3,018	3,143	3,156	3,182	3,117	3,223	3.4	2.5	
	Trend r	"	2,936	2,915	2,945	3,022	3,112	3,160	3,162	3,167	3,184	0.5	2.3	
Q3. Zinc(m)(o)	Orig.	"	76	88	87	82	76	88	73	79	82	3.8	7.9	
	S. adj.	"	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
	Trend r	"	82	84	85	84	81	79	78	80	82	2.9	0.8	
Q4. Silver(m)	Orig.	tonnes	66	122	95	87	80	93	88	95	90	-5.3	12.5	
	S. adj.	"	85	104	96	82	103	79	88	90	116	28.5	12.4	
	Trend r	"	94	95	95	93	89	87	88	96	105	9.9	17.6	
Q5. Copper(m)(o)	Orig.	'000 tonnes	66	71	84	82	71	75	84	79	79	0.0	11.3	
	S. adj.	"	72	73	79	78	77	77	79	76	86	13.2	11.2	
	Trend r	"	71	75	77	78	78	77	78	80	82	3.4	5.3	
Q6. Lead(m)(p)	Orig.	"	32	64	59	56	47	62	51	61	57	-6.6	21.3	
	S. adj.	"	42	58	54	53	61	56	47	58	74	27.6	21.2	
	Trend r	"	51	52	55	58	57	54	54	59	67	12.3	17.6	
Q7. Tin(m)(o)	Orig.	tonnes	61	67	75	37	73	73	13	63	18	-71.4	-75.3	
	S. adj.	"	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
	Trend r	"	67	67	60	63	62	57	46	35	33	-3.5	-45.8	
Q8. Gold(m)(q)	Orig.	kg	73,073	72,363	75,608	69,505	69,676	73,399	77,826	73,549	75,027	2.0	7.7	
	S. adj.	"	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
	Trend r	"	72,278	73,431	72,665	71,337	71,256	72,884	74,987	75,726	75,485	-0.3	5.9	

(a) Includes beef, veal, mutton, lamb, pigmeat and buffalo meat produced in the Northern Territory. (b) Chicken meat is shown in dressed weight of whole birds pieces and giblets. (c) Source: Australian Dairy Corporation. (d) Includes ale and stout. Excludes beverages with alcohol content of less than 1.15 per cent. (e) Source: Australian Tobacco Marketing Committee. (f) Includes mixtures predominantly of the fibre named. (g) Particle boards and similar boards of wood or other ligneous material. Includes boards for subsequent conversion to other purposes. Excludes laminated. Seasonally adjusted estimates will not be published until a longer time span of data are available to provide more reliable seasonal factors. (h) Produced by Australian refineries from imported and indigenous petroleum. Source: ABARE. (i) Includes liquid, paste, powder, granules, flakes, blocks, irregular shapes, lumps and similar forms. Seasonally adjusted estimates will not be published until a longer time span of data are available to provide more reliable seasonal factors. (j) From continuous casting. (k) Includes utilities, panel vans and prime movers for semi-trailers. (l) Available for issue through mains. Includes natural gas. (m) Source: ABARE. (n) Expressed in terms of green off saw volumes. (o) Primary origin only. (p) includes lead content of lead from primary sources. (q) From primary and secondary sources.

## SENSITIVITY ANALYSIS

Where seasonally adjusted series are known to be highly erratic, an analysis of how sensitive the current trend estimates are to additional data can be useful. Such analysis is referred to as 'sensitivity analysis'.

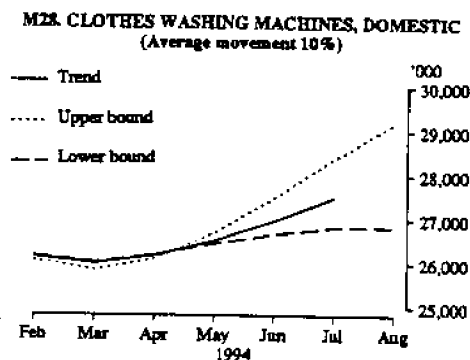
Readers should exercise care when interpreting the latest month's trend estimates because they will be revised when the next month's seasonally adjusted estimates become available. For further information, see Explanatory Notes 7 and 8.

The graph below presents the effect of two possible scenarios on the current and previous trend estimates:

**Upper bound** The August seasonally adjusted estimate of the production of domestic clothes washing machines, is higher than the July seasonally adjusted estimate by 10%.

**Lower bound** The August seasonally adjusted estimate of the production of domestic clothes washing machines, is lower than the July seasonally adjusted estimate by 10%.

The percentage change of 10% was chosen because average absolute percentage change for this series has been 10%.



## EXPLANATORY NOTES

### Introduction

1. This publication presents preliminary monthly and quarterly estimates for selected major indicators of production for Australia. A more extensive range of commodities will be published later in the series of ten *Manufacturing Production Bulletins* (8357.0 to 8363.0 and 8367.0 to 8369.0).

### Scope and coverage

2. Production statistics are not collected from single establishment manufacturing enterprises with fewer than four persons employed or from establishments predominantly engaged in non-manufacturing activities but which may carry out in a minor way some manufacturing. However, in general the contribution of these small producers to statistical aggregates is only marginal and data contained in this publication provide reliable information for the evaluation of movements in commodity production.

### Comparability with other estimates

3. The ABS publishes quarterly estimates of constant price manufacturing production in the publication *Quarterly Indexes of Industrial Production, Australia* (8125.0). These estimates are shown as index numbers and are derived mainly from estimates of manufacturers' sales and stocks.

4. The production statistics published in the series of ten *Manufacturing Production Bulletins* (8357.0 to 8363.0 and 8367.0 to 8369.0) referred to in paragraph 1 account, in total, for less than half of the output of the manufacturing sector, so differences may occur between the general tendency (if there is one) in these items and changes in the quarterly indexes of industrial production. The comment is even more applicable to the preliminary estimates for the major indicators of production shown in this publication.

### Seasonally adjusted and trend estimates

5. Seasonally adjusted statistics are shown for all the data items contained in this publication. In the seasonal adjustment, account has been taken not only of normal seasonal factors, but also where appropriate, of 'working day' effects (arising from the varying numbers of Sundays, Mondays, Tuesdays, etc. in the month) and the influence of Easter and Australia Day which may, in successive years, affect figures for different months. Details of the methods used in seasonally adjusting these series are available on request. As happens with all seasonally adjusted series the seasonal factors are revised annually to take account of each additional year's original data. The results of the latest review were used to compile the revised seasonally adjusted and trend estimates contained in this bulletin. Regular subscribers can obtain a complimentary copy of the full revised series on request.

6. Seasonal adjustment procedures do not aim to remove the irregular or non-seasonal influences which may be present in any particular month, such as the effect of strikes, holiday shutdowns or other factors which vary with the prevailing demand for products. Irregular influences that are highly volatile can make it difficult to interpret the movement of the series even after seasonal adjustment.

7. The smoothing of seasonally adjusted series to create trend estimates is a means of reducing the impact of the irregular component of the series. The trend estimates have been derived by applying a 13-term Henderson weighted moving average to the seasonally adjusted series.

8. While this smoothing technique enables estimates of trend to be produced for the latest month, it does result in revisions to the estimates for the most recent months as data for subsequent months become available. Generally subsequent revisions become smaller and after 3 months have little impact on the series. There will also be revisions as a result of revisions to the original estimates and annual reviews of seasonal and 'working day' factors.

9. Users may wish to refer to the ABS Information Papers *A Guide to Smoothing Time Series - Estimates of Trend* (1316.0) and *Time Series Decomposition - An Overview* (1317.0) for more detailed information on smoothing of seasonally adjusted time series data.

### Related publications

10. Other ABS publications which may be of interest are:

*Manufacturing Production, Australia, Household Appliances and Electrical Equipment* (8357.0) - issued quarterly

*Manufacturing Production, Australia, Clothing and Footwear* (8358.0) - issued quarterly

*Manufacturing Production, Australia, Food, Drink, Tobacco, Stock and Poultry Food* (8359.0) - issued quarterly

*Manufacturing Production, Australia, Fibres, Yarns, Fabrics, Bedding and Floor Coverings* (8360.0) - issued quarterly

*Manufacturing Production, Australia, Building Materials and Fittings* (8361.0) - issued quarterly

*Manufacturing Production, Australia, Plastics, Rubber, Paints, Detergents and Industrial Chemicals* (8362.0) - issued quarterly

*Manufacturing Production, Australia, Transport Equipment* (8363.0) - issued quarterly

*Manufacturing Production, Australia, Metal Products* (8367.0) - issued quarterly

*Manufacturing Production, Australia, Energy Products* (8368.0) - issued quarterly

*Manufacturing Production, Australia, Wood and Wood Products* (8369.0) - issued quarterly

*Manufacturing Production, Australia: Principal Commodities Produced, 1989-90* (8365.0)

*Unpublished production data* is also available from the ABS Sydney office. Please contact Frank Orton on (02) 268 4245.

11. Current publications produced by the ABS are listed in the *Catalogue of Publications and Products, Australia* (1101.0). The ABS also issues, on Tuesdays and Fridays, a *Publications Advice* (1105.0) which lists publications to be released in the next few days. The Catalogue and Publications Advice are available from any ABS office.

### Symbols and other usages

n.y.a.	not yet available
r	figure or series revised since previous issue
n.a.	not available
n.p.	not publishable

